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**The Quality and Safety of Inter-hospital Transfers Care of
Critically Ill Patients from Rural Community Hospitals to
the Tertiary Regional Hospital in Thailand:
A Focused Ethnographic Study**

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**Doctor of Philosophy
The University of Edinburgh
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Declaration

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where states otherwise by reference or acknowledgment, the work presented is entirely my own.

(Ms. Busarin Eiu-Seeyok)

16 October 2018

Abstract

Background: The safety of critically ill patients during inter-hospital transfer is recognised as a globally important issue. However, little evidence exists pertaining to the care provided by transfer nurses throughout the processes of inter-hospital transfer in rural community hospitals where there is a high risk of adverse clinical events occurring during transportation.

Aim: The overall aim of the study was to explore transfer nurses' understanding of the delivery of quality of care during the transfer of critically ill patients from rural community hospitals to a tertiary regional hospital in Thailand.

Design and Methods: The theory of symbolic interactionism (Blumer, 1986) and focused ethnography methodology were used. Data were collected using multiple qualitative methods including sixteen semi-structured interviews with transfer nurses, fourteen observations of critically ill patients' transfers from three rural community hospitals to a tertiary centre and twenty-three subsequent handover events and the analysis of transfer documents from four hospital settings (e.g. one regional hospital and three rural community hospitals) in Thailand. Translation from Thai into English and back translation into vernacular language was required. Inductive, thematic analysis was conducted to identify major themes by using qualitative data analysis software, NVivo 10 to assist data management during the analysis.

Results: Five major themes emerged including (i) protective factors influencing safe transfer care, (ii) barrier factors influencing safe transfer care, (iii) behavioural patterns in transfer care processes, (iv) maintaining the health condition of the patients, and (v) overcoming adverse events. These particular themes elaborate the meaning of the quality and patient safety of transfer care, the provision of care for safe transfer care, and significant contextual factors that influence the quality of inter-hospital transfer care for critically ill patients. In addition, Donabedian's model (Donabedian, 1966, 1988) incorporated within the concept of context and culture was utilised to assist in conceptualising the framework for the quality of inter-hospital transfer care of critically ill patients in Thailand.

Conclusion: The Donabedian model is useful as it is simple, but it does not include detail of the organisational context and culture as determinants of care quality. A conceptual framework for the quality of inter-hospital transfer care of critically ill patients in Thailand was therefore proposed. This study has expanded on current theoretical knowledge of the quality of inter-hospital transfer care by elaborating the patterns of thought and the behaviour of transfer nurses during provision of care throughout the processes of the inter-hospital transfer. It also highlights the limitations of organisational

structure and the environment in which transfer work takes place, including issues on handover processes in hospital transfer care. The results can be useful to transfer nurses in that they facilitate greater understanding of the provision of better quality of care. They also help to inform hospital policy makers how to ensure safety of critically ill patients being transferred from community hospital settings.

Key words: Quality of care, patient safety, inter-hospital transfer, critically ill patients, community hospitals, regional hospitals, a focused ethnography, symbolic interactionism and Donabedian's model

Lay Summary

Background: The quality and safety of care during the transfer of severely ill patients from one hospital to another hospital (inter-hospital) has been regarded as an international issue because many incidents happened during the transfer process. However, little is known about the care that is provided by transfer nurses throughout the transfer process between hospitals, especially from rural community hospitals to a tertiary regional hospital.

Aim: The aim of this study was to gather feedback from the transfer nurses, their understanding of the delivery of quality of care when transferring very sick patients from rural community hospitals to a tertiary regional hospital in Thailand.

Design and Methods: This study was carried out using symbolic interactionism (SI) theory and focused ethnography methodology. Feedback was gathered from interviews with transfer nurses. Additionally, data were collected from observations of severely ill patients' transfers from three rural community hospitals to a tertiary centre, the subsequent events during handover; the transfer documents from four hospital settings were also collected.

Results: The results indicated several factors concerning facilities and barriers that can affect the quality and safety of inter-hospital transfer care for severely ill patients. These factors include and are not limited to: responsibility and accountability, sharing the workload, mentoring support, shortage of nurses, workload, nurse fatigue and sickness, lack of training and technical resources, insecurity and fear, time pressure, the lack of familiarity with patient information and the ineffectiveness of the handover process between the referring nurse and the receiving staff. The results highlighted that it is essential for transfer nurses to have the knowledge and understanding of how to care effectively for patients' conditions while also learning how to observe warning signs and manage risks during the transfer.

Conclusion: The outcomes of this study have highlighted the need to provide more training for transfer nurses to gain better knowledge and understanding of the quality and safety of care. They also help to inform hospital policy makers about how to ensure the safety of critically ill patients being transferred from community hospital settings.

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Contents

	Page
Declaration	iii
Abstract	v
Lay Summary	vii
Acknowledgements	ix
Contents	xi
Figures	xvii
Tables	xix
Glossary	xxi
Chapter One: Introduction	1
1.1 Introduction	1
1.2 Background to the problem	2
1.3 The study	5
1.4 Overview of the thesis structure	6
1.5 Summary	8
Chapter Two: Background of the Thai Health Care System	9
2.1 Introduction	9
2.2 Geographic and socio-economic data	9
2.3 Health care service in Thailand	11
2.4 Accessibility of health services	14
2.5 Nursing workforce in Thai healthcare system	17
2.6 Characteristic of working shift in public hospital in Thailand	20
2.7 Education of nurse-midwifery in Thailand	20
2.8 Regulation and status of the nursing profession	21
2.9 Summary	22
Chapter Three: Literature Review	25
3.1 Introduction	25
3.2 Search strategy	25
3.3 The Importance of inter-hospital transfer of critically ill patients	27

3.4 Empirical evidence and recommendations for safe inter-hospital transfer of critically ill patients	32
3.4.1 Empirical evidence for safe inter-hospital transfer of critically ill patients	33
3.4.2 Recommendations for safe inter-hospital transfer of critically ill patients	35
3.5 The perspective of quality and safety of care	42
3.5.1 Definition of terms relating to quality of care and patient safety	42
3.5.2 The concept of quality and safety of care	44
3.6 Research gap of inter-hospital transfer of critically ill patients in Thailand	47
3.7 Summary	49
Chapter Four: Research Methodology and Design of the Study	51
4.1 Introduction	51
4.2 The research aim and research questions	52
4.3 The philosophical assumptions of the study	52
4.3.1 Ontology perspective	53
4.3.2 Epistemological perspective	54
4.3.3 Theoretical framework perspective	55
4.4 Research design	58
4.4.1 The use of qualitative research	58
4.4.2 Rationale of ethnographic research	60
4.4.3 A focused ethnography underpinning the study	61
4.4.4 Limitations of using focused ethnographic research	62
4.5 Research methods	63
4.5.1 Multiple qualitative methods underpinning this study	63
4.5.2 The limitations of using multiple methods of data collection	66
4.5.3 The study settings	67
4.5.4 Gaining access to study settings and research participants	73
4.5.5 Selection and recruitment of the participants and critically ill patients	75
4.5.6 Identifying the critically ill patient	82
4.6 Summary	83
Chapter Five: The Study Processes and Data Analysis	85
5.1 Introduction	85
5.2 Process of qualitative data collection	85

5.2.1 Preliminary work.....	86
5.2.2 Data collection methods in two main locations of fieldwork.....	88
5.3 Ethical considerations in practice.....	96
5.3.1 Obtaining participants' informed consent for study participation.....	97
5.3.2 Maintaining privacy, confidentiality and anonymity.....	98
5.3.3 Managing risk and emotional distress.....	99
5.3.4 Offering reimbursement and compensation.....	100
5.4 Data analysis.....	101
5.4.1 Data management and rigour in translation.....	102
5.4.2 The process of data analysis.....	105
5.5 The quality criteria in the qualitative research.....	113
5.6 Using reflexivity within the research.....	116
5.6.1 Reflexivity – my position within the research process.....	117
5.6.2 Reflexivity – my position during the research process.....	119
5.7 Summary.....	123
Chapter Six: Contextual Factors Influencing Transfer Care Behaviour ..	125
6.1 Introduction.....	125
6.2 Protective factors influencing safe transfer care.....	128
6.2.1 Having responsibility and accountability as a nurse.....	128
6.2.2 Transfer nurses recruitment through sharing workload.....	133
6.2.3 Mentoring support.....	137
6.2.4 Providing a blame-free culture.....	140
6.3 Barrier factors influencing safe transfer care.....	143
6.3.1 Shortages in the nursing workforce and their impact.....	144
6.3.2 Haphazard training.....	157
6.3.3 Inadequate advanced technical resources.....	160
6.3.4 Feelings of fear and insecurity.....	165
6.3.5 Work constraints on communication during handover.....	172
6.4 Summary.....	177
Chapter Seven: The Provision of Safe Transfer Care.....	181
7.1 Introduction.....	181
7.2 Behavioural patterns in transfer care processes.....	181

7.2.1 Inadequate pre-transfer risk assessment and transfer nurse allocation.....	182
7.2.2 Various practices for monitoring and documenting during transfer.....	186
7.2.3 Relying only on the data in the transfer letter.....	191
7.2.4 Questioning as judgement	195
7.2.5 Ignoring and avoiding.....	198
7.3 Maintaining the health condition of patients	202
7.3.1 Sharing complete information about the patients.....	203
7.3.2 Appropriately and rapidly responding to changes in a patient's condition	204
7.3.3 Applying the ABCDE approach.....	207
7.3.4 Managing risk prior to transfer	210
7.4 Overcoming adverse events	211
7.4.1 Detecting early warning signs by attentive observation.....	212
7.4.2 Clinical judgement and decision-making	215
7.4.3 Seeking help.....	218
7.5 Summary	221
Chapter Eight: Discussion and Conclusion	223
8.1 Introduction	223
8.2 Discussion of the findings	223
8.2.1 What is the quality of inter-hospital transfer care for critically ill patients transferring from rural community hospitals to a regional hospital in Thailand?	224
8.2.2 How do transfer nurses provide quality of care for critically ill patients during inter-hospital transfer from rural community hospitals to a regional hospital in Thailand?	225
8.2.3 What are the contextual factors that influence the quality of care during transportation of critically ill patients from rural community hospitals to a regional hospital in Thailand?.....	228
8.3 Development of the conceptual framework for safe inter-hospital transfer of critically ill patients in Thailand.....	234
8.4 Reflection on the development of the conceptual framework.....	238
8.5 Discussion of focused ethnography used in the study.....	240
8.6 Limitations of the study.....	241
8.7 Recommendations	242

8.7.1 Implications of the findings for practice	243
8.7.2 Implications of the findings for policy	244
8.7.3 Recommendations for education	245
8.7.4 Recommendations for research.....	246
8.8 Conclusion.....	247
References	249
Appendixes	275
Appendix A: A summary of the reviewed literature	275
Appendix B: Ethical approval from the University of Edinburgh Ethics Committee	276
Appendix C: Ethical approval from the tertiary regional (REG) hospital in Thailand (in English)	278
Appendix D: Ethical approval from the tertiary regional (REG) hospital in Thailand (in Thai)	279
Appendix E: Data collection permission from COM1 hospital in Thailand	280
Appendix F: Data collection permission from COM2 hospital in Thailand.....	281
Appendix G: Data collection permission from COM3 hospital in Thailand.....	282
Appendix H: Information sheet for participants (in English)	283
Appendix I: Information sheet for participants (in Thai)	286
Appendix J: Consent form (in English).....	290
Appendix K: Consent form (in Thai)	291
Appendix L: Patient classification system in Thailand	292
Appendix M: Semi-structured interview guide	295
Appendix N: Observational procedure.....	299
Appendix O: The official transfer letter employed by public hospitals in Thailand	302
Appendix P: Characteristics of the four hospital sites	303
1. REG hospital	303
2. COM1 hospital.....	304
3. COM2 hospital.....	306
4. COM3 hospital.....	308

Figures

	Page
Figure 1: Map of Thailand	10
Figure 2: Health care system network in Thailand	13
Figure 3: PRISMA diagram showing selection of documents at each stage.....	27
Figure 4: Reason's Swiss Cheese Model of system accidents	46
Figure 5: The process of data collection in this study.....	74
Figure 6: Translation procedure for the study	103
Figure 7: Data analysis process adopted from Maimbo (2005)	107
Figure 8: Causal linkages among contextual factors influencing safe transfer care	127
Figure 9: Conceptual framework for quality of inter-hospital transfer care of critically ill patients in Thailand	236

Tables

	Page
Table 1: Inclusion and exclusion criteria for the literature in this study.....	26
Table 2: Levels of professional nursing competencies for inter-hospital transfer of emergency patients	31
Table 3: Determination and requirement of transfer nurses in the inter-hospital transfer of emergency patients	32
Table 4: Explaining the setting, methods of data collection and number of participants in the study	68
Table 5: The similarities and differences in transfer management among the three community hospitals.....	72
Table 6: Characteristics of participants from four hospital settings.....	79
Table 7: Comparison of patient classification between the Thai system and the British system	83
Table 8: Example of the linguistic differences in translation from Thai into English	104
Table 9: Example of emergent themes from categories and codes	112
Table 10: Ratio of registered nurses and transferred patients from the community hospitals to REG hospital	133
Table 11: Structure of the transfer rota and the transfer nurses allocation between community hospitals.....	134
Table 12: Example of transfer nurses' rota in November 2011 at COM1 hospital.....	136
Table 13: Differences between vital signs and oxygen saturation monitoring and written record documents between three community hospitals during transfer critically ill patients	187
Table 14: Results of the search performed in CINAHL and DiscoverED	275
Table 15: Patient classification system in Thailand	292
Table 16: The questions to receiving nurses at the regional hospital.....	296
Table 17: The questions for referring nurses at community hospitals	297
Table 18: Participant observation procedures throughout the transfer processes ...	300

Table 19: A number of nursing staff per shift at the regional hospital and three community hospitals on the weekday.....	304
Table 20: Transfer nurses' rota per a calendar month in November 2011 at COM1 hospital.....	305
Table 21: Participant's rota per a calendar month on November 2011 at COM1 hospital	305
Table 22: Participant's Rota per a calendar month on December 2011 at COM2 hospital	307
Table 23: Participant's rota per a calendar month in January 2012 at COM3 hospital	309

Glossary

ED	Emergency Department
MW	Maternal Ward
IPD	Inpatient Department
OPD	Outpatient Department
ICU	Intensive Care Unit
GCS	Glasgow Coma Scale, referring to a neurological scale which intentions to give reliable and objective data recording of the level of consciousness in a person following a traumatic brain injury or other brain diseases
Vital signs	A clinical measurement, particularly temperature, pulse rate, respiratory rate and blood pressure, to indicate the state of a patient's vital body functions
Oxygen saturation	A term that refers to the measurement of oxygen saturation in the blood; it can be measured with oximetry. The normal level in humans is considered to be in the range of 95-100 percent
ECG	Electrocardiogram - a recording of the electrical activity of the heart
MI	Myocardial infarction, referring to a death of a segment of heart muscle associated myocardial vessel obstruction
Stroke	Insufficient or cut off of the blood supply to part of the brain
Dopamine	An agent that increases the contraction of heart ability
ET	Endotracheal tube - a medical tube inserted through the mouth or nose down into a trachea for respiratory support
ACLS	Advanced Cardiac Life Support
ATLS	Advanced Trauma Life Support

Chapter One: Introduction

1.1 Introduction

This study investigates the delivery of care during inter-hospital transfer of critically ill patients in Thailand. It is a qualitative enquiry into the experiences of transfer nurses in rural community hospitals and at tertiary care hospitals during their transfer and the reception of critically ill patients. An ethnographic approach was used for the study.

The study was motivated by my own experiences as a nursing instructor in the Department of Adult and Geriatric Nursing at a nursing college in Thailand. My role has given me opportunities to supervise closely nursing students and to work with nursing staff at a tertiary regional hospital and within different practice locations such as the Traumatic Intensive Care Unit (TICU), the Surgical Intensive Care Unit (SICU), and the Emergency Department (ED) where the condition of patients is usually critical. In the ED, I worked as an emergency nurse where I had experience of receiving patients and participated in their handover from transfer nurses from community hospitals. This allowed me to observe and interview nurses escorting critically ill patients from rural community hospitals when they arrived at the ED of the regional hospital. I found that most of the transfer nurses accompanying critically ill patients had very limited equipment. Furthermore, in my conduct of some clinical handovers (verbal and documentary), there was incomplete data because of irregularities in the monitoring process. Some patients suffered clinically adverse events during transfer, such as hypotension, bleeding, and loss of consciousness, which were not documented, but reported during the handover. These experiences left me wondering how inexperienced nurses manage critically ill patients during inter-hospital transfer, and how the quality of care for these patients should be monitored and enhanced.

1.2 Background to the problem

The quality and safety of the transfer care of critically ill patients is recognised as a globally important issue due to the large number of critically ill patients being transferred between hospitals and the potential high risk of complications and adverse events during transfer (Moss et al., 2005, Association of Anaesthetists of Great Britain and Ireland, 2009, Parmentier-Decrucq et al., 2013). Particularly in the rural community hospitals in Thailand, critically ill patients are likely to require to be transferred to another hospital which has better facilities for dealing with their illness. Generally, the most important reasons for inter-hospital transfer are the lack of specialist care, a critical care service, diagnostic tools, and advanced therapeutic equipment in rural areas. Patient outcomes depend to a large degree on the expertise of personnel and technology available within a healthcare facility (Gebremichael et al., 2000, Warren et al., 2004, Droogh et al., 2015).

In respect of the high incidence of adverse events during transfer, there are recommendations from many organisations, such as the Association of Anaesthetists of Great Britain and Ireland (AAGBI) (2009), the North of England Critical Care Network (NoECCN) (2010), and the Intensive Care Society (ICS) (2011) and research reports (Gray et al., 2004, Fried et al., 2010) that the transfer of critically ill patients may be made safer by detailed attention to the transfer process. However, studies in several countries, such as in Saudi Arabia (Abdullah et al., 2014), China (Jia et al., 2016), and Brazil (Gimenez et al., 2017) have shown that some critically ill patients still had adverse clinical events, including life threatening ones, during transfer. These studies suggest that it is not uncommon for patients to deteriorate during transfer and that this problem is caused by failure of personnel, equipment failure, and team (communication) failure.

In the United Kingdom (UK), the concept of transferring critically ill patients has been widely accepted and recognised by critical care networks, patient transfer work groups and retrieval teams, and much has been published concerning in-transfer mortality, procedures and interventions, physiological deterioration, and team composition (Department of Health, 2000a, Dunn et al., 2007, Victorian Quality Council, 2009).

Guidelines have been established in order to manage the safe transportation of critical care patients before and during transfer (Knowles et al., 1999, Intensive Care Society, 2011).

The importance of inter-hospital transfer has also been recognised in the health care system in Thailand. Several professional societies in Thailand have developed and published guidelines for the inter/intra-hospital transfer of critically ill patients, including the National Institute for Emergency Medicine (2014), the Thai Society of Critical Care Medicine (2006) and the Emergency Medicine Department, Khon Kaen Regional Hospital (2017). The clinical practice of inter-hospital transfer systems for critically ill patients existing in Thailand has not yet been standardised, shown by factors such as lack of specialised retrieval teams and inadequate technical equipment for particular patients used in ambulances. This results in the possibility of events harmful to the patient during the transfer.

Anecdotal knowledge from the REG hospital in Thailand (Emergency department of REG hospital, 2012¹) suggests that there has been an increase in complaints received from many health care providers. For instance, patients with severe head injuries experienced insufficient ventilation and/or lack of equipment during transfer and this resulted in a higher risk of brain hypoxia and brain oedema. Patients in shock found insufficient ventilation and circulation support and this increased iatrogenic morbidity. For some critically- ill patients, poor monitoring, equipment failures, and iatrogenic morbidity occurred during the transfer. Therefore, there is a need to continue making improvements in the quality and safety of care during the transfer of critically ill patients.

Given Thailand's limited resources, recent Western transfer guidelines such as those dealing with staff numbers and their particular training, and the quality of ambulances,

¹ Emergency department of REG hospital (2012). Anecdotal record of adverse events during hospital transfer from community hospitals and REG hospital.

might be unrealistic. The guidelines of Intensive Care Society (2011, pp. 3-4) suggest, for example, that:

[C]ritically ill patients should be accompanied by at least two suitably experienced attendants, one of which should be a medical practitioner with appropriate training in intensive care medicine, anesthesia or other acute specialty. ... the second attendant will be a nurse with independent professional responsibility towards the patient. Nursing staff should be appropriately qualified and experienced. They should ideally hold a post registration qualification in critical care which should have included educational elements on the transfer of critically ill patients. Advanced cardiac life support (ACLS) certification is also useful.

The above guidelines might be unrealistic in Thailand as there are not enough nursing or medical staff with this level of expertise in transporting these patients. Most accompanying staff are newly registered nurses who are inexperienced in clinical practice and in advanced cardiac life support (ACLS). Within Thailand's socioeconomic context, the inter-hospital transfer procedure from rural hospitals to a tertiary hospital is similar to that in other developing countries, such as Turkey (Soysal et al., 2004), or Jamaica (Crandon et al., 2008). On this basis, it may be inferred that, in Thailand, there are many problems with the inter-hospital transfer of critically ill patients from rural community hospitals. Firstly, the health care providers who work in the inter-hospital transfer system have insufficient knowledge and training in the field. Secondly, the ambulances and emergency departments have insufficient technology. Thirdly, the physicians are primarily interns lacking supervision. Finally, the Thai government has limited monetary resources to support the health care service system. As a consequence, these issues mean that competent and experienced personnel, and new medical technology, are only available in provincial and regional hospitals rather than in small rural community hospitals.

Addressing the challenges around the quality of care during hospital transfer in Thailand requires clinicians and researchers to understand the characteristics of care during transfer and the contexts in which the care is delivered, such as whether particular types of safe care are provided in the rural community hospitals and the tertiary regional hospital. A focused ethnographic study can identify these characteristics of care and the contextual considerations of collecting data about the quality of transfer care. This

knowledge is an essential first step to making recommendations for improvements to the quality of care in inter-hospital transfers processes in Thailand.

1.3 The study

The main purpose of this study is to explore the delivery of quality of care during inter-hospital transfers of critically ill patients from rural community hospitals to a regional hospital in Thailand. The study is designed to gather data from individual transfer nurses concerning their experiences during the transfer process by ambulance, right up until arrival at a receiving hospital. The aim was in-depth understanding of the quality and method of delivery of care for safe inter-hospital transfers of critically ill patients.

On this basis, the following research questions were formulated to guide the observations, interviews, and document reviews to explore the inter-hospital transfer care delivery from transfer nurses' experiences of community hospitals and a regional hospital:

1. What is the quality of inter-hospital transfer care for critically ill patients from rural community hospitals to a regional hospital in Thailand?
2. How do the transfer nurses provide quality of care for critically ill patients during inter-hospital transfer from rural community hospitals to a regional hospital in Thailand?
3. What are the contextual factors that influence the quality of care during transportation of critically ill patients from rural community hospitals to a regional hospital in Thailand?

In order to answer these three research questions, the study is designed to gather data from individual transfer nurses' experiences in community hospitals, in a regional hospital and on the ambulances. The aim was in-depth understanding of the quality and method of delivery of care for safe inter-hospital transfers of critically ill patients. Further detail of this process is presented in Chapter Four and Five.

For the purpose of this study, some important terms need to be defined.

- Delivery of care refers to the quality of care and safety, which is delivered to critically ill patients to meet the needs of patients and therapeutic effectiveness.
- Inter-hospital transfer is a term used to describe the transportation of a critically ill patient between hospitals by ground ambulance for their further clinical management.
- Critically ill patient refers to a patient who has an illness or injury, is in a medically unstable state and requires an intensive level of care.
- A rural community hospital refers to a community hospital peripheral to a provincial centre with 10 to 60 beds and with 1 to 5 physicians. This hospital is a district hospital with or without a specialist physician and there are no critical care services (both intensive care units (ICU) and high dependency units (HDU)) provided for people who are in a critical or unstable condition.
- A tertiary regional hospital refers to a tertiary hospital outside Bangkok with 500 to 1,000 beds with comprehensive specialist and treatment facilities.

1.4 Overview of the thesis structure

In this introductory chapter, I have presented the motivation on which the study is based; provided background information about previous research on inter-hospital transfer care, quality and safety of care, both in developed and developing countries. I have then described the aim of the project, the research questions, and indicated the objectives of the study and how they will be fulfilled. The thesis is structured as follows:

Chapter Two provides general background information about the population, economic status and health status, and the healthcare system including nursing and midwifery education and regulation. Also described is the Thai nursing workforce as this has a significant effect on the quality of healthcare in Thailand.

Chapter Three provides a critique, analysis, and synthesis of literature related to the themes and issues under study. The review draws from theoretical and empirical studies. Specific attention is given to theoretical underpinning of the published studies on the quality and safety of healthcare. The chapter contextualises the research by

presenting a critique and analysis of the existing literature specific to the quality and safety of inter-hospital transfer care for critically ill patients. This literature reveals the concepts and ideas that have led to the contemporary management of safe inter-hospital transfer care of critically ill patients. This literature exhibits gaps and inadequacies in our current knowledge. In light of the deficiencies that the chapter identifies, I conclude this chapter by arguing a need of research on the quality of transfer care for critically ill patients by paying attention to the contextual elements underlying transfer nurses' experience.

Chapter Four describes the conceptual foundation of the research. This chapter begins with a philosophical perspective of the study that leads to consideration of contextual constructivism as a means of understanding the transfer nurses' experience of the quality of transfer care. I also provide my rationale for adopting qualitative focused ethnography as my chosen methodology for understanding the contextual and cultural elements underlying personal experience. Multi-method research is employed, which involves accessing, selecting and recruiting including both nurses and critically ill patients.

Chapter Five details how the data analysis was conducted. I also provide a discussion on the theoretical and practical issues relating to the research implementation adopted in the study. Finally, I discuss the ethics of gaining access to subjects, the development of quality in this qualitative research, and how reflexivity is embedded within the research. The aim of this chapter is to provide as much detail of my research conduct as possible in order to make the research processes as vivid to the reader as possible.

Chapters Six and Seven offer a full account of the findings and the overarching themes. The contextual factors influencing safe transfer care behaviour are presented in Chapter Six. This chapter shows the contextual factors to the quality of safe transfer care, separated into two main themes. The first theme, entitled 'protective factors influencing safe transfer care,' explains the strong sense of responsibility and accountability in of transfer nurses of rural community hospitals and clarifies the definition of the quality of transfer care for critically ill patients in the words of individual transfer nurses. In addition, assignment of transfer nurses in accordance with

the needs of sharing the workload in the community hospital context is presented. The second theme is 'barrier factors influencing safe transfer care.' This second theme explains the negative factors associated with the nursing personnel, technology and equipment, and working environments in the community hospital and their impact on nurses' performance and the quality of care. This theme also emphasises the feeling of fear encountered by nurses during transfers, and the motion sickness arising from ambulances travelling at high speeds and the effect on the quality of transfer care.

Chapter Seven explores the provision of care during inter-hospital transfer. This chapter focuses on how nurses in rural community hospitals in Thailand provide safe transfer care for critically ill patients within the complexity of the critical care environment. It revolves around how transfer nurses maintain the stability of patients, and how they respond when adverse events occur with the patient while travelling in the ambulance. This includes habitual patterns in transfer care processes which may become an organisational culture and may affect the quality of care and patient safety during transfer.

Chapter Eight offers discussion and a conclusion. First, the discussion of the findings will be provided. This study is firmly based on the real experiences of nurses handling transfers between referring hospitals and the receiving hospital. Next, a conceptual framework of the safe inter-hospital transfer care based on the Thai cultural context is proposed. I then deliberated on how the focused ethnographic study illuminates an understanding of transfer nurses' experience. After that, I explain some main limitations identified in this research. Finally, the chapter sets out the implications of the findings for health care policy makers, emergency health care professionals and educators.

1.5 Summary

In Chapter One, I illustrate the direction of my thesis. I have provided the background of my research by sharing the personal experiences and background of the problems that have led me to pursue this research project. This includes the research aim and key questions. The next chapter provides information on the context of healthcare in Thailand.

Chapter Two: Background of the Thai Health Care System

2.1 Introduction

In this chapter, I present a brief introduction to the healthcare system of Thailand as background information to the study context in this thesis. I first present the geographic and socio-economic characteristics of the country. Second, I describe the health care service. In the third section I focus on the detail of accessibility of health care services and a discussion on universal health coverage. Fourth, the human factor, particularly regarding the nursing workforce, is provided. Fifth, I describe the characteristics of work shifts in public hospitals. The last section details the education and training, including the regulations on the nursing and midwifery professions.

2.2 Geographic and socio-economic data

Thailand, officially the Kingdom of Thailand, is located in the South-east Asia region of developing countries the World Health Organisation (WHO) (2015a). The country has a shape resembling an ancient axe. The total area is approximately 513,115 km² (198,115 square miles), the 51st-largest country in the world. The north-east and east of Thailand bordered by Lao and Cambodia; the west and north-west by Myanmar; and the south by the Gulf of Thailand, Malaysia, and the Andaman Sea (Asia Pacific Observatory on Health Systems and Policies, 2015). Bangkok or ‘Krung Thep’ is the capital city in Thailand (Figure 1).

In terms of geographical area, Thailand is divided into 76 provinces (changwat), which are gathered into five regions: Central, Northern, Southern, Western, and Northeastern. Provinces is divided into districts (amphur) and the districts are further divided into sub-district (tambons).



Figure 1: Map of Thailand²

The people of Thailand are homogeneous. The vast majority of the population (96%) is of Thai ethnicity. The rest are Chinese, Malay, Khmer, Mons, and other minorities, including hill tribes. The official language is Thai. The dominating religion is Buddhism (Asia Pacific Observatory on Health Systems and Policies, 2015). The population is about 67,959,000 in 2015; 34.1% were living in urban areas. Thailand is categorized in the upper-middle income group, with an average gross capital income per capita of 12,018 US\$; however, the percentage of poverty ranges four to eight times greater in some rural regions when compared to Bangkok. Regarding Thailand's health profile, 46% of deaths are from non-communicable disease (NCD), 40% from communicable diseases, and 14% from injuries. The mortality rate for under-fives is 48 per 1,000 live births, and that of adults is 187 per 1,000 among males and 124 per 1,000 in females. In Thailand, the ratio of healthcare personnel to the general

² Map of Thailand; from <http://www.worldatlas.com/webimage/countrys/asia/th.htm>

population is low when compared to the global average: 3.9 physicians and 20.8 nurses per 10,000 people (World Health Organization, 2015a). This evidence reveals that Thai people on a low income are the key target group that benefits from healthcare improvement.

2.3 Health care service in Thailand

The Ministry of Public Health (MOPH) is the national health authority for developing and implementing health care policy. From 1996 to 2007, many health care agencies have been established through national law, including the Health Systems Research Institute (established 1992), the Thai Health Promotion Foundation (2001), the National Health Security Office (NHSO) (2002), and the National Health Commission Office (NHCO) (2007). MOPH and these agencies formulate a complex interdependent administrative structure, while private sectors and non-governmental organisations also play increasing roles in health care service. The NHCO is authorised to organise the annual National Health Assembly (NHA), combining government and private sectors in developing health policy through NHA resolutions. The establishment of the NHSO has had a crucial impact in separating the integrated model of MOPH as a purchaser (e.g., NHSO) and as a service provider (e.g., MOPH) (Asia Pacific Observatory on Health Systems and Policies, 2015).

The public sector has played an important role in providing healthcare services to the Thais under the administration of the MOPH. The administrative structure is composed of central and provincial administration. The MOPH has decentralised health management to the Provincial Health Office (PHO) and public hospitals, especially the financial power. The PHO is also authorised to issue new licences or annual licence renewal for private pharmacies and clinics, and consumer protection of food, medicines and cosmetics in the particular province.

In the non-public care system in Bangkok and other big cities, private hospitals and clinics provide the same types of care as the public sector for smaller number of people (Yiengprugsawan et al., 2010). Private healthcare services are available as an option of care though the cost of these services is high. The majority of Thai people with low

income, especially those living in rural areas, are likely to use public health services due to financial constraints and the fact that these services are more widely available.

The public healthcare system is designed in three levels: primary, secondary, and tertiary care as shown in Figure 2. Most public hospitals are under the MOPH and are operated as non-profit organisations, accounting for almost 75% of the nation's hospital beds. Public hospitals include tertiary regional hospitals (> 500 beds), provincial and other general hospitals (120-500 beds), community hospitals (10-120 beds), and health promotion hospitals (sub-district health centres) with 5-10 nurses and staff but no inpatient service provided, only primary care in rural areas (Puenpatom and Rosenman, 2008).

The local network of hospital and health centres is able to refer more complex patients to provincial and tertiary hospitals at their referral hub. Although more physicians and nurses have been trained in Thailand since the 1970s, there has been a problem of staff shortages, especially in the countryside, where much of the care is carried out by public health officers and village health volunteers. Mandatory rural service of physician and nurses, and more recently dentists and pharmacists, who are directed by the government to work in rural areas needing staff has reduced this problem of uneven workforce distribution but shortages remain (Kitreerawutiwong et al., 2017). Hanucharunkul (2007) states that primary care through reducing health inequities and increasing accessibility to both public and private sectors is the key success in a universal coverage scheme. The networking among these three levels of care is essential to ensure quality and continuity of care.

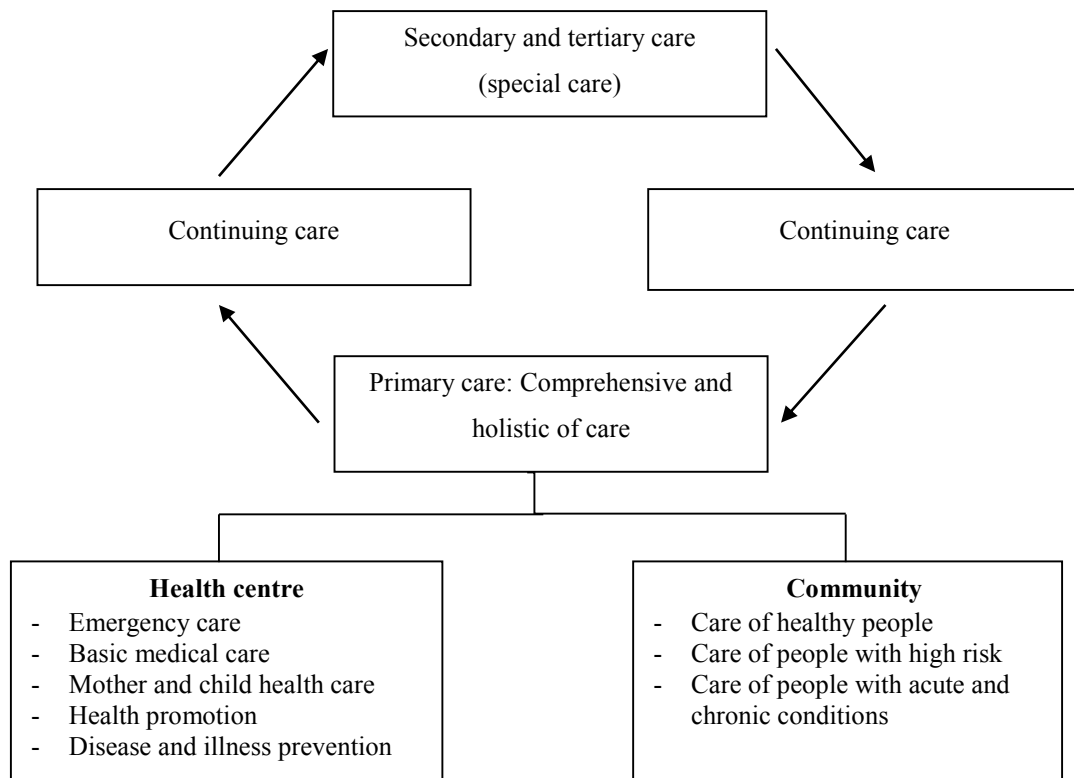


Figure 2: Health care system network in Thailand
(Hanucharurnkul, 2007, p.84)

To explore the 3-tier care structure in more detail, tertiary and secondary care are provided in general, regional, and university hospitals which are the main referral hubs for complicated transferrals from community hospitals. They also admit patients with more complicated conditions and provide more advanced medical services than the community hospitals (Puenpatom and Rosenman, 2008). Primary care, which emphasizes prevention, health promotion, and rehabilitative care, is provided by sub-district health centres and community hospitals. They delegate some primary healthcare services to village health volunteers, allowing community hospitals to focus on providing curative care. Regarding the accessibility of healthcare services, urban residents do have access to some sub-district health promotion hospitals and community hospitals. This means that the secondary and tertiary service at provincial and tertiary hospital are close at hand. Rural residents mostly receive health services, such as immunization, health promotion and preventive care from sub-district healthcare centres and community hospitals (Hanucharurnkul, 2007). This means that geographical area is significant in measuring and establishing equity between rural and

urban areas in terms of basic needs, to improve the health and well-being of the Thai population.

For inter-hospital transfer in Thailand, hospital transfer has recently been regulated by national guidelines (National Institute for Emergency Medicine, 2014) and by law (Notification of the Ministry of Public Health, 2002), prescribing a coordinating role for both the referring and the receiving hospital. Generally, the mode of inter-hospital transfer is by a standard ambulance but this mode still has inadequate monitoring capabilities and medical staff during transfer. The transfer of critically ill patients in public hospitals in Thailand depends on the level of capacity of the hospital at various levels. In tertiary hospital care level, the transfer is performed by an ambulance with ED nurses and a driver, and the patient is occasionally transferred by an ICU nurse or a physician. In primary and secondary hospital care (e.g. a community hospital), the transfer will be provided by an ambulance with ED nurses or nurses from various departments depending on the policy of each hospital.

2.4 Accessibility of health services

Thailand has been expanding health security or insurance coverage by government to all Thai citizens under three major schemes. These schemes in Fiscal Year (FY) 2014 are: (1) 7.39% of civil servants' medical benefits scheme (also for state enterprise employees and other small government autonomous organisations), (2) 16.90% of social security scheme (for workers in all private firms), and (3) 73.80% of universal coverage scheme (UCS, also known as the 30-Baht Scheme). Universal health coverage for all Thai citizens had risen from 71.0% in FY2001 to 99.84% of the population in FY2014 (National Health Security Office, 2015). In this section I detail only the challenges facing the UCS because this service covers the majority of Thai people.

The UCS was launched in 2001 in order to promote accessibility, equity and efficiency of healthcare for Thais without causing financial risk to their households. The UCS is a tax-financed scheme that covers people previously protected by a collection of piecemeal schemes and people who did not have health protection particularly in the informal sector. Registered hospitals under the UCS are classified into three

categories: primary care hospitals, main contactors, and referral hospitals. Most of the facilities are affiliated with the ministry of public health. The services of the UHC include comprehensive care from promotion, prevention, curative and rehabilitation services. This implementation includes out-patient and in-patient services, health promotion and disease prevention, medical rehabilitation services, Thai traditional medicine, disease management and vertical programmes which are a component of the health system and have centralised management of a specific group of health problems, such as cerebro-vascular diseases and heart disease, diabetes mellitus and hypertension, HIV/AIDS, chronic kidney diseases, and cataract. People joining the UCS are allowed to access services in their health district, and, if necessary, to transfer to specialist treatment elsewhere. People are admitted to hospital when ill and discharged at the rehabilitation phase. Secondary and tertiary care provide treatment for more complicated cases and more specialist medical care than can be provided by the community hospital (Puenpatom and Rosenman, 2008).

After the UCS was launched, the accessibility of out-patient and in-patient services, including other complicated and high-cost services has been improved. The National Health Security Office (2015) report that the utilization rate of out-patient services has increased from 111.95 million visits or 2.45 visits/person/year in FY2003 to 153.61 million visits or 3.17 visits/person/year in FY2014 (29.5% increase). Also, the utilization rate of in-patient services has increased from 4.30 million admissions or 0.094 admissions/person/year in FY2003 to 5.68 million admissions or 0.117 admissions/person/year in FY2014 (24.6% increase). The study by Paek et al. (2016) suggest that patients who receive out-patient health services from designated facilities are more likely to be in low-income, unemployed, and chronically ill groups. For in-patient care, the number of patients receiving health service from designated facilities is also more likely to be in low-income, older, and female groups.

However, the UCS implementation in Thailand has been challenged. The most serious challenge in the UCS is financial management. One of the key components of the UCS is capitation-based reimbursement of public hospitals for out-patient services based on the populations enrolled with them and case-based payments for in-patient services they provided (Ruangratanatrai et al., 2015). Thus, hospitals are financed

according to the population of the area they serve and they must control spending to maintain their financial viability. Capital payments to hospitals under the UCS may not be sufficient to cover costs. The net UCS budget on capitation has been increased from THB 1,202.40 per capita of the UCS beneficiary in FY2003 to THB 2,895.09 per capita of the UCS beneficiary in FY2014 plus other vertical programmes. The government budget for the UCS has been increased from THB 56,091 million or at 5.61% of the overall government budget in FY2003 to THB 154,258 million or at 6.11% of the overall government budget in FY2014, more than a two-fold increase (National Health Security Office, 2015). Costs of production increase from annual salary adjustments, drugs and medical supplies, antiretroviral medicines, and system development to support primary care or to promote referral systems (Tangcharoensathien et al., 2013, National Health Security Office, 2015).

While the unit cost of health services has continued to increase following growth in labour costs, the major burden of mortality and morbidity comes from chronic disease, and the ageing population (Yiengprugsawan et al., 2010, National Health Security Office, 2015) and the government budget for the UCS fund has not increased correspondingly. In order to maintain efficiency in financial management, strategies that have been operated have included reducing the unit cost in health services while maintaining quality of health care. These strategies are also enhancing efficiency in financing the management of every level of organisation, proposing government funding requests based on clinical guidelines practice and health service evidence, as well as promoting stakeholder participation in terms of sharing the sense of ownership of the universal health coverage (National Health Security Office, 2015).

Balancing access, health equity and the workload of providers is also necessary to gain maximum benefit for clients and for the health system overall (Thoresen and Fielding, 2011). Furthermore, preparing policy and strategy for an ageing society is needed in order to decrease healthcare expenditure and avoid overburdening public hospitals with chronic disease and the long-term care needs of the dependent elderly, for example by using family and community health care (Shiba et al., 2016) or assistive technologies (Madara Marasinghe, 2016). Still, the greatest challenge in an ageing society is integrating operations and classification roles among related agencies, such

as the ministry of public health, ministry of social development and human security, ministry of education, ministry of interior, ministry of science and technology.

2.5 Nursing workforce in Thai healthcare system

Statistics from the World Health Organisation (WHO) (2015b) show that the number of nursing and midwifery personnel contracted between 2007 and 2013 in South East Asian countries (including Thailand), the African region, the United States, and Europe is 15.3, 12.4, 44.9, and 80.2 people per 10,000 population respectively. Several studies also state that Thai public hospitals have been experiencing shortages of nursing professionals (2017, Sawangdee, 2009, Thailand Nursing and Midwifery Council, 2013). The recent study by Sawangdee (2017) states that the expected demand for registered nurses based on the existing ageing workforce in Organisation for Economic Cooperation and Development (OECD) countries from 2017 to 2021 is about 136,520 Full-Time-Equivalent (FTE) of nurses. However, the registered nurses working in the health service across Thailand are only 71.87% of the estimated demands. Therefore, the Thai nursing shortage requires urgent attention by policymakers to help ensure sufficient numbers of competent nurses are in place to address the health needs of the population.

In addition, the distribution of the nursing workforce differs between Bangkok and other regions (north, north-east, central and south). The north-east region that has many remote areas suffers the most severe nursing shortage compared to other regions in Thailand. The Thailand Nursing Council (2013) reports that the nurse and patient ratio in Bangkok is 1:251. The ratio in the north-east region is 1:611 and the ratio in other parts of the country is about 1:450. From the evidence, it is shown that Thai hospitals in rural and remote areas are understaffed. Buykx et al. (2010) state that the nursing shortage is an international issue in particular in rural and remote areas which leads to negative consequences for quality of health care services and patient outcome.

The nursing shortage issues are not only Thai issues but are international issues (World Health Organization, 2015b). The nursing shortage in Thailand results from many factors. Some are similar to those in other countries. The factors include an increase in patient age population from communicable disease to noncommunicable disease

(NCDs) (e.g. cardiovascular diseases, cancers, diabetes), the ageing population (World Health Organization, 2017), and job dissatisfaction and burnout which are major contributory factors of turnover of nursing professionals (Duffield and O'Brien-Pallas, 2003, Duffield et al., 2011, Nantsupawat et al., 2011).

Apart from the above factors, the severe shortage of nursing staff in national level hospitals in Thailand is affected by particular factors. One main factor is an increase in demand for health care services, facilities and healthcare personnel due to the universal health coverage scheme (Thoresen and Fielding, 2011). The healthcare service policy is provision of free health service for all Thai citizens who are not covered by any other public health protection scheme. In addition, there are no set rules for booking an appointment with the general practitioners (GP), certain specialists or other health care providers, which results in an increase in the number of patients admitted both as out-patients and in patients in public hospitals. The consequence of the high demand of healthcare service is heavier workloads for healthcare professionals. An interview investigating perceptions among Thai healthcare professionals, particular in rural areas, found that they have experienced a change in the consumption of healthcare services after the universal healthcare scheme was announced. The change was also marked by a significant increase in the number of patients and consequently, the workload (Thoresen and Fielding, 2011).

Furthermore, the working life of a nursing professional is short. Sawangdee et al. (2009) estimated the duration of working-life in the nursing workforce between 1995 and 2005: it was found that nurses had on average only 22.5 working years and the drop out rate of nurses in the health care system was 4.44 percent per year as a result of the the possibility of better jobs, of unsafe working conditions, lack of opportunities to develop their knowledge and lack continuing training, the demands of heavy work but insufficient pay (Srisuphan and Sawangdee, 2012). The shortness of the working life results in a loss to the nursing workforce of about 4,000-5,000 people per year (Khunthar, 2014).

The nursing shortage in Thailand also results from government policy: a response to reducing the size of the public sector led to a cancellation of nursing student

scholarships and a reduction of 30% in the number of trainee nurses between 1999 to 2005. It thus resulted in losing a number of newly registered nurses in the health care system over a six-year period (Khunthar, 2014). Regarding the reducing size of the public sector, the Public Health Ministry have offered limited permanent employment in the position of a civil servant since 1999 to the present time (2018). This issue leads to the loss of 23.3% of newly graduated nurses who would otherwise work in the public hospitals because of their lack of confidence in their financial security and the uncertainty of temporary employment (Sawangdee, 2009).

When considering overall factors affecting nursing shortage, however, heavy workload is one primary factor that contributes to the nursing workforce shortage, the Thai government policy of the abolition of nurses being civil service members since 1999 to date has taken a toll on the nursing sector. It is a crucial factor that has resulted in a crisis of new nurse recruitment in public hospitals. This policy reduces stability in employment, which is counter to the requirements of public health services. Prof. Dr. Srisuphan—the former president of the Thai Nursing Council—said in the Bangkok Post that “having no civil service rank, new nurses feel their careers are not stable. With bargaining power reduced and salaries likely not increasing, many nurses are hired for positions lower than their qualifications” (Vanichkorn, 2012).

The study by Sawangdee et al. (2009) found that the consequence of this policy has meant 48.68 % of the registered nurses leave their profession within the first year and a further 25.57% leave in the second year. That leaves only 92.3 % of newly graduated nurses working in three southern border provinces, identified as risk areas, who have been recruited as civil servants still in the system (Sawangdee, 2011). Most of them work in private hospitals after leaving (Srisuphan and Sawangdee, 2012). Sawangdee (2017) suggests that the Permanent Secretary Office (PSO), at the Ministry of Public Health should request the Cabinet to provide new civil servant posts every year to prevent the loss of young nurses. Therefore, it can be seen that this policy reflects the fragility of nursing workforce planning. There is also inadequate accurate information on which the policy makers can base their decisions, especially on the change in health care needs, and the loss of nursing workforce. The shortage will worsen in the future if the policy makers and health care organisations cannot reduce or halt losses.

2.6 Characteristic of working shift in public hospital in Thailand

Regarding the working schedule in Thai public hospitals, work in hospital involves dividing the 24- hour period into three work shifts (8 hour-shift) – a day shift from 8 am to 4 pm, an evening shift from 4 pm to 12 am, and a night shift from 12 am to 8 am – with nurses generally working five shifts a week. There is no formal contract for regular working hours for nurses. Nurses' working hours depend on the official working day policy established by the government, and these are impacted by public holidays, which makes schedules variable. For example, there were 31 days in August 2015. If this month had ten days for the weekends and one day for a public holiday (National Mother's Day), nurses' working hours are 20 days/shifts and they have 11 daysoff a month. Although the day off may benefit their health and well-being, in practice the registered nurses are required to work mandatory overtime. Mandatory overtime is the hours worked more than a previously agreed work schedule that is set in a contract (American Nurses Association, 2014). In the report issued by the Thailand Nursing and Midwifery Council (TNC) (2013), registered nurses are asked mandatorily to work double shifts or overtime as a result of the nursing shortage and to perform highly demanding workload in the hospitals. Therefore, the mandatory overtime in the Thai context means that nurses are obliged to comply with the request, having no choice because of the large volume of patients admitted into hospitals and the inadequate number of nursing staff in hospitals. They also work overtime because they do not want to let down their colleagues with whom they work and agree to share the workload together.

2.7 Education of nurse-midwifery in Thailand

Nursing education in Thailand has a long history (Anders and Kunaviktikul, 1999). The first nursing school in Thailand was established in 1896 by Queen Sripachariantra, the queen of King Rama V and a pioneer in introducing women into the field of nursing. After losing her child to cholera and realising the high maternal mortality rate, modern nursing care was introduced in Thailand.

Professional nurses in Thailand nowadays are trained through a 4-year integrated programme for the degree of Bachelor of Science in Nursing and Midwifery. Both nursing and midwifery components are integrated into the nursing curriculum which aims to train graduates who can work as both nurses and midwives. Nursing students can enrol in nursing programmes provided by the Ministry of University Affairs, or by the Ministry of Public Health. They also may enrol in another institutes offering nursing degrees such as private universities, military, police department, metropolitan, or Thai Red Cross programmes.

Initially, professional nurses in Thailand are trained both in nursing and midwifery of the nursing curriculum in a four-year programme titled Bachelor of Science in Nursing. The first year includes general sciences and nursing theories. Moving on to the second year a specialist course on diseases, pharmacy and nursing principles is introduced. During the third year, students are mainly directed to nursing sciences, midwifery and practice. For the final year, students concentrate on practising nursing and midwifery in clinical settings and communities. The prospective nurses are expected to pass a licensing examination to obtain both certificates in nursing and midwifery.

Students attending nursing schools must also pass a comprehensive examination, and then the licensing examination administered by the Nursing and Midwifery Council for them to become registered nurses (Thailand Nursing and Midwifery Council, 2017a). The graduates are required to work for their scholarship sponsors for two or four years depending on their scholarship specifications. However, there are some graduates who prefer to work in private hospitals or transit to other occupations.

2.8 Regulation and status of the nursing profession

There are two main organisations that regulate nurses and midwives in Thailand. The Nursing and Midwifery Council of Thailand is the main regulatory body of nursing and midwifery in the country. The council takes responsibility to regulate the manner of those who are nurse practitioners and/or midwifery in Thailand. The council also regulates the accreditation and licensing of nursing schools due to the various routes students may take to be registered (Thailand Nursing and Midwifery Council, 2017a).

The overall objectives of the council and bureau are to develop, maintain, monitor, evaluate and control the profession of nursing and midwifery in order to raise the health status and quality of life of Thai people. The Nursing and Midwifery Council formulated the Nurses and Midwives Act in B.E. 2528 (1985), which was revised in B.E.2540 (1997) to ensure the delivery of safe, effective and ethical nursing and midwifery care by all registered nurses in Thailand. The council and the bureau also contribute to policymaking, drafting professional education and training requirements; regulate, monitor and evaluate services based on standards of nursing and midwifery education, practice and professional conduct. Therefore, regulation is implemented through the design of the syllabus to be followed by all nursing and midwifery training institutes through the administration of licensing examinations. The examination assesses acquisition of prescribed competencies as well as safety to practice independently following the standard, code of ethic and nursing and midwifery characteristics.

2.9 Summary

Thailand is a developing country located in the South-east Asia with approximately 68 million people. The Ministry of Public Health oversees health and medical care. Non-communicable disease is the major burden of morbidity and mortality while infection diseases as well as traffic accidents, are important public health issues.

To increase access to the health service, the Thai government has launched the Universal Coverage Scheme (UCS) to promote accessibility, equity, and efficiency of healthcare for Thai citizens while reducing the people's financial burden since 2001. The benefit package is including basic medical care and rehabilitation, high cost medical treatment, and emergency care. People who join the UCS are allowed to access services in their own health district, and, if necessary, to be transferred for specialist treatment in their main contactors or referral hubs. The UCS implementation in Thailand has been challenged by financial management as the unit cost of health services has risen from increases in labour costs, and the burden of mortality and morbidity on chronic disease and the ageing society.

Furthermore, there is a shortage of numbers of nursing and midwifery personnel following the policy that abolished their civil service ranking. An increase in the

ageing population, the increasing intensity and co-morbidities of illness, in the population, job dissatisfaction, and burnout are also major contributory factors of the high turnover rate in nursing professional. The Thai nursing shortage requires urgent attention by policymakers and related organisations, mainly the Nursing and Midwifery Council of Thailand which is the main regulatory body of nursing professional to help ensure supply of sufficiently competent nurses to support the health system.

The next chapter offers a comprehensive review of the literature regarding the quality of care of inter-hospital care given by transfer nurses for critically ill patients.

Chapter Three: Literature Review

3.1 Introduction

In relation to the contextualisation of the study within inter-hospital transfer care for critically ill patients, I have provided a critical analysis of the existing literature, which will help to clarify important ideas to aid understanding the quality and safety of inter-hospital transfer care for critically ill patients. In this chapter, the importance of inter-hospital transfer of critically ill patients will be presented first, followed by the analysis of empirical studies and recommendations for safe transfer care of critically ill patients. Next, I illustrate the concept of quality and safety of care. Finally, I identify knowledge gaps in relation to transfer care from community hospitals to the tertiary regional hospitals in Thailand.

3.2 Search strategy

To explore to what extent and how safety and quality of care relate to the critically ill patient in the process of the inter-hospital transfer, I utilised a variety of ways of searching the literature to optimise the width and depth of this review to explore what quality and safety of care relate to the critically ill patient in the process of the inter-hospital transfer and how this comes about. Various search engines were used to identify available literature. However, in this study I decided to use CINAHL (Cumulative Index to Nursing and Allied Health Literature) and DiscoverEd of the University of Edinburgh. The main reasons are because (1) CINAHL includes references from nursing and allied health literature which includes health information management, health sciences librarianship and information science (Finfgeld-Connett and Johnson, 2013), and (2) DiscoverEd is the Library's discovery service where I can search the Library's collections, including books, e-books, journal titles, journal articles, and various databases.

I used the Boolean operators AND and OR to help in clarifying the literature search. The search terms used included quality of care, quality of health care or patient safety, inter-hospital transfer or patient transfer, critically ill patients, critical care or intensive care, and transfer nurses or nurses (see Appendix A). Articles and books were

identified as further material through references. To keep the focus of this review I included only papers relating to the transfer of critically ill patients, both paediatric and adult, were considered. I excluded the literature associated with the transfer of specific patient groups, such as those with cardiac disease, traumatic brain injury or acute kidney injury because they are very specific cases that do not meet with my study's aims. Papers addressing other aspects of transfer such as pre-hospital transfer, air medical transfer, and transfer from home health care centres were also excluded. Only publication dates from 2000 to present (2018) were used because advanced technologies in medical tools and treatment used in critical transfer have been updated periodically (Iwashyna, 2012). The majority of the literature contained in this review is research-based. To narrow the scope of the literature review, inclusion and exclusion criteria were illustrated in Table 1.

Table 1: Inclusion and exclusion criteria for the literature in this study

Inclusion criteria	Exclusion criteria
- Published during 2000-2018	- Letter
- Journal articles with full text and peer reviews	- Editorial
- Systematic reviews	- Book review
- Research reports associated with quality and/or safety of inter-hospital transfer care of critically ill patients	- Anonymous work
- Professional organisation and government policy document and reports	- Anecdotal records
- Published in English	- Abstracts, proceeding papers

The search yielded 110 full-text articles hits of which 31 records were screened as potentially relevant after removing duplicates. An extensive search for grey literature yielded 1,439 sources (Figure 3). These searches yielded a large number of studies. Unfortunately, when searching specifically for the quality and safety of inter-hospital transfer care of critically ill patients by transfer nurses, research studies were very limited (only two papers were found). The majority of studies looked at the safety of inter-hospital transfer healthcare of critically ill patients by other healthcare personnel, such as physicians, anaesthetists, ambulance nurses, and paramedics, not the transfer nurses. I thus included all these studies in order to apply this existing literature into the inter-hospital transfer by nursing professionals.

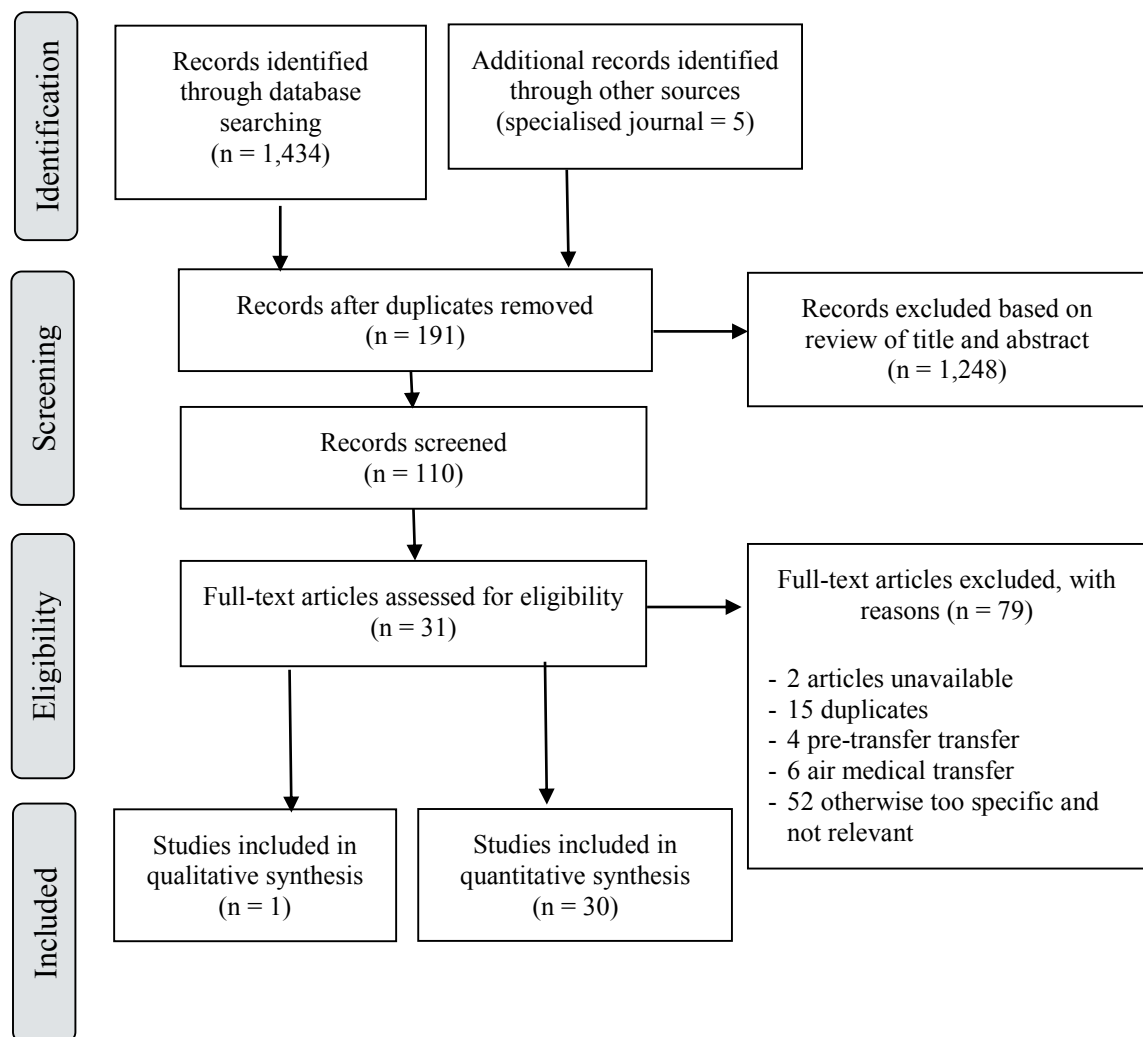


Figure 3: PRISMA diagram showing selection of documents at each stage (Moher et al., 2009, p. 1009)

3.3 The Importance of inter-hospital transfer of critically ill patients

Critically ill is the term used for patients who have a life-threatening multisystem illness that can result in mortality (Robertson and Al-Haddad, 2013). Such patients may be pathophysiologically unstable, have complex health care needs, and require an extensive body of knowledge in order to provide competent and vigilant nursing care to critically ill patients and their families (Morton and Fontaine, 2009).

A Department of Health report in 2000 entitled ‘Comprehensive Critical Care’ (Department of Health, 2000a) defines four different levels of care applied for patients in hospital. Critical care is provided within the continuum of primary, secondary and

tertiary care with the majority of services delivered in the secondary care setting. The National Health Service (NHS) – the public health services in the United Kingdom – recommends that the existing division into high dependency and intensive care based on beds be replaced by a classification. This classification focuses on the level of care that individual patients need wherever they are based. It is important to classify patients by the level of organ support received or simply by the type of bed they occupy. Officially, the Department of Health (2000a) classifies a patient's levels of acuity into four levels with regard to the requirement of specialist investigation and treatment as follows:

- Level 0: Patients whose needs can be met through normal ward care in an acute hospital.
- Level 1: Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from the critical care team
- Level 2: Patients requiring more detailed observation or intervention including support for a single failing organ system or post-operative care and those 'stepping down' from higher levels of care
- Level 3: Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organ systems. This level includes all complex patients requiring support for multi-organ failure.

High dependency can refer to level 1 or 2 whereas intensive care usually means level 2 or 3. (p. 10).

When the treatment needs of critically ill patients exceed the resources of the hospital, inter-hospital transfer or secondary transfer is required. Inter-hospital transfer can be defined as the transfer of patients from one hospital to another for specialist therapeutic or diagnostic facilities and intensive care service (Fried et al., 2010, Sethi and Subramanian, 2014). Mostly, patient transfer occurs in low-competency hospitals due to lack of resources. Inter-hospital transfer is usually carried out by road ambulance or aircraft transfers and may be from an emergency department, ward or intensive care unit (ICU) of one hospital to that of another. A key role in inter-hospital transfer is

played by emergency medicine practitioners, anaesthetists, nurses and paramedics who refer and receive critically ill patients (Intensive Care Society, 2011). The inter-hospital transfer has been identified as having five phases: (1) notification and acceptance by the receiving hospital, (2) preparation of the patient by the referral team, (3) the actual transfer, (4) turnover of the patient to the receiving hospital, and (5) continuous quality improvement monitoring after transfer (Morton and Fontaine, 2009). Inter-hospital transfer is a dynamic and complex process since there are several phases requiring the involvement of different healthcare professionals to deal with the complex healthcare needs of the patients.

The number of transfers of critically ill patients has been increasing ever since the development of intensive care medicine. This is because of the expanding complexity of healthcare, the concentration of skills into specialised healthcare centres, and the lack of intensive care services in referring hospitals (Droogh et al., 2015, Martin, 2012). It has been proven that the patient transfer is beneficial. A study conducted in the USA by Kahn et al. (2008) suggested that the lives of 4,720 patients might have been saved in a year if they have been transferred to more appropriate facilities.

Although inter-hospital transfer may save lives, the transfer process itself is associated with a risk of physiological deterioration and adverse events (Parmentier-Decrucq et al., 2013, Jia et al., 2016). The incidence of adverse events is proportional to the pathology of the critical illness, time-sensitive intervention (i.e. the patients' need for critical care treatment), distance, traffic conditions, the number and competency of people involved and the logistics of the transfer itself (Morton and Fontaine, 2009, Martin, 2012, Robertson and Al-Haddad, 2013). Serious adverse events during transfer are a leading cause of death and loss. As a result of this, the awareness of quality of care and patient safety issues is increasing in healthcare worldwide.

In respect of the high incidence of adverse events during transfer, the concept of safe transfer of critically ill patients has been widely recognised and accepted by the critical care networks, patient transfer work groups and retrieval teams. Many countries have implemented guidelines and follow existing guidelines in order to manage the safe transportation of critical care patients before and during transfer (Intensive Care Society,

2011, Droogh et al., 2015). For example, in the UK, guidelines have been published by the Association of Anaesthetists of Great Britain and Ireland (AAGBI) (2009), the North of England Critical Care Network (NoECCN) (2010), and the Intensive Care Society (ICS) (2011). In Australia and New Zealand guidelines have been published by the Australasian College for Emergency Medicine (ACEM) (2015). These guidelines also suggest the minimum standards of the inter-hospital transfer process for critically ill patients in many aspects that are: the decision to transfer, pre-stabilisation, management during transfer, staff involved in the transfer, monitoring procedures, equipment and ambulances, and documentation and handover. For example, the guidelines of Intensive Care Society (2011, pp. 3-4) suggest, for example, that:

[C]ritically ill patients should be accompanied by at least two suitably experienced attendants, one of which should be a medical practitioner with appropriate training in intensive care medicine, anesthesia or other acute specialty. ... the second attendant will be a nurse with independent professional responsibility towards the patient. Nursing staff should be appropriately qualified and experienced. They should ideally hold a post registration qualification in critical care which should have included educational elements on the transfer of critically ill patients. Advanced cardiac life support (ACLS) certification is also useful.

In many countries (e.g. the UK, Belgium, Netherland), a Mobile Intensive Care Unit (MICU) is used for the transfer of critically ill patients. Transfer staff in the MICU are a driver (an emergency medical technician), a physician (emergency medicine or anesthesiology trainee year 3-6) and an experienced ED nurses. All necessary equipment for advanced respiratory support, cardiac pacing and defibrillation, invasive and non-invasive hemodynamic monitoring, airway management and venous access is carried. Also, extracorporeal life support (e.g. intra-aortic balloon pump, ECMO) can be conveyed in a MICU (Bellingan et al., 2000, Strauch et al., 2015, Lyphout et al., 2018).

In Thailand, due to a lack of intensive care services in rural community hospitals, if there are critically ill patients or severe injury patients presenting in community hospitals, these community hospitals must transfer the patients to the next tertiary centres for specialist expertise and treatment facilities. Normally, the mode of transfer is by ambulance. Like other countries, Thailand is concerned for patient safety during

transfer. The recent guideline has been developed and recommended by the National Institute for Emergency Medicine (2014) since 2014. This guideline is for inter-hospital transfer of emergency patients, consisting of five specific guidelines: (1) the system and network of inter-hospital transfer, (2) classification levels of patient acuity for inter-hospital transfer, (3) management of transfer personnel, ambulances, medicine and equipment, (4) patient care in each transfer phases (e.g. pre-transfer, during transfer, post transfer, and referral evaluation), and (5) specialised care in the three southernmost provinces of Thailand.

In general, the Thai transfer guideline is largely similar to other countries' guidelines. However, the obvious difference is that emergency department (ED) nurses take the main role as transfer personnel due to the shortage of medical staff. Under these guidelines, the competencies of ED nurses are classified into four levels: basic, doing, develop, and advance (Table 2).

Table 2: Levels of professional nursing competencies for inter-hospital transfer of emergency patients

Level	Year experiences in ED	Minimum requirement of staff qualifications
Basic	0-1	Basic inter-hospital ground transportation + BLS
Doing	1-3	Basic level + ACLS + ATCN/ITLS
Develop	3-5	Doing level + PALS + Neonatal resuscitation
Advance	>5	Develop level + Critical care transportation

Note: From National Institute for Emergency Medicine (2014, p. 24); BLS (Basic Life Support); ACLS (Advanced Cardiovascular Life Support); ATCN (Advanced Trauma Care for Nurses); ITLS (International Trauma Life Support); PALS (Paediatric Advanced Life Support)

The guidelines recommend a minimum number of transfer nurses based on levels of patient acuity as detailed in Table 3.

Table 3: Determination and requirement of transfer nurses in the inter-hospital transfer of emergency patients

Levels of patient acuity	Competency of ED nurses				A minimum number of transfer personnel (people)
	Advance	Develop	Doing	Basic	
Unstable (U)	1	1		1	3
Stable with high risk of deterioration (H)		1	1		2
Stable with medium risk of deterioration (M)			1	1	2
Stable with low risk of deterioration (L)				1	1
Stable with no risk of deterioration (N)				±1	0-1

From: National Institute for Emergency Medicine (2014, p. 26)

All existing guidelines suggest the practice of patient transfer as it should be. However, whether they are applicable in the real world is questionable. Especially in Thailand, there are not enough nursing or medical staff members with competencies as recommended in the guidelines. Most transferring staff are newly registered nurses who are inexperienced in clinical practice and transfer training, especially in rural community hospitals in Thailand. The transfer nurses are not only from emergency departments, but also from various other departments. Therefore, some transfer nurses do not have insightful knowledge and skills required for the critical transfer. In this case, patient safety during inter-hospital transfer might not be ensured.

3.4 Empirical evidence and recommendations for safe inter-hospital transfer of critically ill patients

In this section, I evaluate the current evidence on the safety of transfer of critically ill patients that focuses on the key elements of inter-hospital transfer care. I also include a recommendation for safe transfer of critically ill patients.

3.4.1 Empirical evidence for safe inter-hospital transfer of critically ill patients

Almost all research studies associated with safe inter-hospital transfer of critically ill patients since 2000 have been published in quantitative research concerning measurement and improved safe inter-hospital transfer (Droogh et al., 2012b, Bérubé et al., 2013, Abdullah et al., 2014, Lyphout et al., 2018). Most research studies report unsafe transfer care of critically ill patients by dividing into two categories which are: (1) physiological alteration associated with pathophysiological change of critical illness/injuries; and (ii) errors concerning personnel failure, equipment failure and team (communication) failure (de Almeida et al., 2012, Abdullah et al., 2014, Jia et al., 2016, Gimenez et al., 2017).

The study in Saudi Arabia by Abdullah et al. (2014), for example, reported that out of 31 adult critically ill patients 13.7 percent experienced adverse events during inter-hospital transfer and in four cases these were life threatening in-transit. Even a short distance in the intra-hospital transfer of critically ill patients has been related to cardiorespiratory complication and secondary damage on organ function (Zuchelo and Chiavone, 2009, de Almeida et al., 2012), more recently a study in Brazil (Gimenez et al., 2017) and a multicentre study in China (Jia et al., 2016) reported that a high incidence of adverse events were detected occurring during intra-hospital transfer, ranging from 39.9% to 79% of transferred patients. From this evidence, adverse events are most often cardiorespiratory, such as hypotension, tachycardia, arrhythmias, inadequate ventilation or oxygen desaturation. Causes of incident of adverse events of these studies are similar which relate to physiological deterioration, personnel failure, equipment failure and team failure.

Although national critical care societies provide the transfer guidelines, high incidence of adverse events is still reported and many incidents could be preventable. Research studies support that a primary cause of these issues is associated with non-adherence to the guidelines (Gray et al., 2003, Haji-Michael, 2005, Ligtenberg et al., 2005). In 2005, Haji-Michael discussed two main reasons for the incidents occurring. The first reason concerns sponsorship: those with responsibility and authority for the care of the

patients do not carry out the transfers. It seems as if transfer is a low priority in service development. The second reason is a lack of motivation for change. Moreover, it might be because the patient group has changed. Patients we previously thought to be nearer end-of-life are now being transferred because of advances in treatment, such as using extracorporeal membrane oxygenation (ECMO) to provide prolonged cardiac and respiratory support to patients whose heart and lungs are in failure.

There is a lack of qualitative explorations of quality and safe transfer care from transfer nurses. My review of an available study into safe transfer care from transfer nurses' accounts reveals a very small body of research on this area, as will be discussed in the following paragraphs.

An explorative qualitative study, whose design was based on the Critical Incident Technique by Gustafsson et al. (2010) investigated the worries and concerns (WaC) experienced by specialist nurses during inter-hospital transfers of critically ill patients in Sweden. The study involved an individual interview, group interview, open ended questionnaires, and observations with thirty specialist nurses who had experience of critical situations that occurred during transfer. The author reported the following two themes. The first was WaC about being unable to influence their work situation. Nurses reported that several factors caused loss of control of their work situation, such as patient safety and their own safety, not having clear instructions and guidelines for the transfer, and being unable to use the unfamiliar equipment. Second was WaC about being unable to perform their work tasks as expected. Nurses felt that they were unable to provide sufficient quality for the patient and their family if they were far away from their hospital environment. The findings also showed the nurses used both internal and external resources to manage their WaC, such as their own experiences, preparing themselves and the necessary equipment in advance, communicating, sharing information, and asking for help from colleagues. This study suggests that good teamwork, clear instructions and guidelines, and national training courses should be promoted in order to reduce the WaC among transfer nurses and to ensure patient safety.

3.4.2 Recommendations for safe inter-hospital transfer of critically ill patients

The recommendations for inter-hospital transfer of critically ill patients from international critical care networks/societies and other research reports emphasise the importance of safe transfer, and provide guidelines on the minimum standards of inter-hospital transfer process for critically ill patients in many aspects as those described in the following section:

3.4.2.1 The decision to transfer

The decision for the transfer of a critically ill patient to another hospital is patient-centred and is made when the benefits of transfer outweigh the risks (Singh and MacDonald, 2009). The main reason for the transfer of patients is their need for specialist management in the relevant hospital. This is often for neurosurgical care, spinal care, cardiac care, and paediatric intensive care (Crandon et al., 2008, Fried et al., 2010). Another reason is a non-clinical transfer which occurs when the referring sites lack critical care beds or staff. If possible, no patient should be transferred for non-clinical reasons, because the risk of inter-hospital transfer may prompt complications. Finally, it is for repatriation as the patient has become ill or injured in a different area to the area in which they live or far away from their local hospital (AAGBI, 2009; ICS, 2011).

In any case of transfer, it is necessary to keep the patient's condition stable before transfer. After referring and receiving hospitals agree to transfer the patients, the transfer process must be executed immediately. Both hospitals should collaborate to give the continuity of care for the patients (Sethi and Subramanian, 2014).

3.4.2.2 Pre-transfer stabilisation

By definition, critically ill patients are most likely to have changes in their condition due to their pathophysiological illness/injuries even without being transferred (Droogh et al., 2015). Research studies report that adverse events are most often cardiorespiratory, such as hypotension, tachycardia, arrhythmias, inadequate ventilation or oxygen desaturation (Wiegersma et al., 2011, Abdullah et al., 2014). Therefore, critically ill

patients require physiological stability before transfer in order to avoid complications during the journey and this is key to successful transfer of critically ill patients. Preparation for transfer should be thorough and completed before patient transfer. Full clinical details and examinations such as electrocardiography, chest radiography and computed tomography (CT), haematology and biochemistry results of critically ill patients should be assessed and reviewed before any transfer. With new technology, the relevant medical team in a receiving hospital can see this information before the transfer patient is even on his or her way. The airways should be clear, ventilation and circulation must be adequate. There should be appropriate equipment, monitoring, and trained and experienced staff. Also, the staff should be familiar with local ambulance and emergency service protocols and role responsibilities (AABGI, 2009, ICS, 2011, ACEM, 2015).

However, some patients may not be necessarily in a very stable condition or be able to undergo complete assessment because they need urgent transfer as the level of care they need cannot be provided at the location they are in. Delaying in pre-transfer times may be harmful to certain groups, such as patients with an abdominal aortic aneurysm or intracranial haematoma (Dunn et al., 2007). This includes the 'golden hour' or 'a window of opportunity' (Kipshidze et al., 2014) for some particular patients for whom intervention needs to take place immediately to ensure their best chance of survival and to reduce the mortality, such as in patients with acute myocardial infarction and acute ischemic stroke occurs within the first hour following onset of symptoms (Iqbal, 2011). Therefore, there are different situations which influence the decision making at the time. Guidelines suggest that the decision to transfer critically ill patients is a balance between what can be done, the need for urgent transport and the preparedness of the receiving team. Furthermore, the nature and degree of seriousness of the patient's condition, the competency of accompanying staff and equipment influence this balance.

3.4.2.3 Transfer personnel allocating and training

Many critical care organisations recommend a minimum of two people to transfer each critically ill patient (AABGI, 2009, ICS, 2011, ACEM, 2015). The transferring staff

must be trained by an appropriately qualified transferring team which includes an experienced medical practitioner. Sufficient staff should be carried to allow maintenance of high standards of patient care on the journey. The recommendation by the AAGBI (2009) was that the requirement for transferring personnel will depend upon the level of the clinical circumstances in each case, and the decision should be made based on a patient's level of acuity stated in section 3.3 by a senior physician as follow:

- Patients with level 0 should not usually need to be accompanied by a doctor, nurse or paramedic.
- Patients with Level 1 require a paramedic ambulance crew and may require a nurse, paramedic and/or medical escort.
- Patient with Level 2 must be escorted by competent, trained and experienced personnel, usually a doctor and a nurse or paramedic.
- Patients with Level 3 must be escorted by competent, trained and experienced personnel, usually a doctor and a nurse or paramedic.

The AAGBI (2009, pp.8-9)

The dynamic nature and complexity of inter-hospital transfer of critically ill patients requires transfer nurses to be competent, trained and experienced in order to respond to clients' needs ensuring the quality and safety of care. In a qualitative study by Gunnarsson and Warrén Stomberg (2009), fourteen ambulance nurses were interviewed about their work situation in the Swedish context where participants had to make a rapid decision. Findings show that knowledge and experience are essential factors for the difference in decision-making skills of ambulance nurses between novice nurses and more experienced nurses in the emergency care situation. They describe that knowledge as being seen as a prerequisite for making correct decisions, and that experience enables various interpretations of a given situation when complex decisions must be made. In order to be employed as a transfer nurse of critically ill patients, further qualifications are required (ICS, 2011, ACEM, 2015), such as intensive care, Advanced Trauma Life Support (ATLS), Advanced Cardiac Life Support (ACLS), or a paediatric clinical transfer nurse (PCTN). For example, Solomon and Clarke (2009) in the study on developing the role of a paediatric clinical transfer

nurse (PCTN) for the transfer of critical paediatric patients to a referral hospital by the University Hospitals of Leicester, find that the PCTN gains several benefits, such as reduced transfer risks and reduction in the patient's family's anxiety during transfer, maximisation of the availability of ICU and ward beds, and support to the paediatric ICU nursing establishment in periods where there are no transfers. From the studies, the critically ill patients seem to derive benefits from the specialised transfer nurses not only because of the quality and safety during transfer, but also because of the supportive nursing staff. All critical care networks agree on the importance of specific transfer training for the transfer team (AAGBI, 2009, ICS, 2011); however, they have not put national training programmes in place (Droogh et al., 2012a) and there is still a lack of specific transfer training (Cook and Allan, 2008).

3.4.2.4 Retrieval teams

Typically, the transfer is carried out by a transfer team in referral hospitals. Still, there is in some cases a retrieval team from the receiving hospital that will come to collect and transfer patients in a stable condition from referral hospitals (Martin, 2012). The evidence from the UK reveals that the quality of care is improved if a specialised retrieval team is used (Bellingan et al., 2000), particularly in paediatric cases where specifically trained personnel are required. This is supported by a study finding that the survival rates in 13,729 critically ill children transferred by specialist retrieval teams was higher than in 3,146 transferred by non-specialist teams (Ramnarayan et al., 2010). Also, this is consistent in the two-phase studies in the Netherlands. In the first phase of these studies, critically ill patients were transferred by standard ambulances with or without a referral specialist team, whereas in the second phase a specialised retrieval team, intensivist, and an ICU nurse took care the patients during transfer. The result confirms that the establishment of a specialised transfer team with a MICU compared with a standard ambulance finds a decline in adverse events (from 34 to 12.5%) and no incidents related to staff management or inadequate preparation (from 70% to 0%) (Ligtenberg et al., 2005, Wiegersma et al., 2011). According to some previous studies, the specialist retrieval team seemed to be able to transfer patients who are more seriously ill patients with less incidence of adverse events in critically ill patients.

On this basis it may be inferred that specialist retrieval teams may reduce the adverse events during the transfer of critically ill patients; however, it may not be easy to maintain an adequate number of trained personnel in all hospitals, especially in the small healthcare centres. Inglis and Daly (2013) suggest that establishing centrally located specialised retrieval teams might be a better option. Additionally, such a team can be arranged in rural and remote healthcare facilities to provide critical care skills to resuscitate and stabilise patients prior to the transfer of critically ill patients. Therefore, it is not surprising that most intensive care societies recommend the use of a specialised retrieval team or at least the use of specifically trained personnel in inter-hospital transfers.

3.4.2.5 Equipment and ambulances

Minimum transfer equipment requirements have been drawn up by many organisations (AAGBI, 2009, ICS, 2011, ACEM, 2015). The AAGBI (2009) and the ICS (2011) recommend that patients with level 2 or 3 needs will require monitoring during the transfer. The minimum standards for monitoring during transport are pulse oximetry, electrocardiographic monitoring, non-invasive blood pressure, end tidal carbon dioxide in ventilated patients and temperature. All equipment used should be strong, durable and lightweight.

The ICS (2011) also suggests using invasive blood pressure measurement through an arterial cannula in most cases. The endotracheal tube position is secured and noted before transfer, and the adequacy of oxygenation and ventilation is reconfirmed in patients with ventilator support. Ambulances should be designed to ensure good trolley access and fixing systems, including sufficient space for medical staff, adequate gases, electricity and storage space. Ideally, all equipment should be robust, durable and lightweight. Electrical equipment must be designed to function by battery when not plugged into the mains. The portable monitor should have a clear illuminated display and be capable of displaying ECG, oxygen saturation and non-invasive blood pressure. The oxygen supply and battery operated equipment must be more than sufficient for the anticipated duration of the transfer. Also, the ambulance must be ready to take the patients.

Additionally, critically ill patients often have pathophysiological changes, and require facilities for organ support and invasive monitoring. The limitations of monitoring, resuscitation and the availability of less treatment equipment when using standard ambulances during critical hospital transfer imposes additional risks to critically ill patients (Ligtenberg et al., 2005, Strauch et al., 2015). Recent experience in many countries had led to the design and adoption of dedicated intensive care ambulances or MICUs with specialised retrieval teams to transfer critically ill patients. A report has indicated that specialised teams using MICU can safely transfer patients with severe critical illness (Wiegersma et al., 2011). The result of this study has been shown to be effective in using MICUs in reducing risks during transfer of critically ill patients.

3.4.2.6 Management during transfer

On safety issues, the ICS (2011) recommends patients should be securely strapped to the trolley. Also, staff should wear seat belts at all times. All equipment needs to be functioning well before the transfer is started. Monitoring must be continuous throughout the transfer and should be apparent to accompanying staff. The speed of the ambulance is also of concern because it relates to the safety of all passengers and other road users. The ICS (2011) suggests that in the majority of critically ill patients high speed travel is not necessary because it imposes more risks than benefits, due to physiological effects from acceleration and deceleration forces during transfer (Handy and Van Zwanenberg, 2007, Sethi and Subramanian, 2014). The transfer should be undertaken slowly and steadily with minimal braking and accelerating (Handy and Van Zwanenberg, 2007, Martin, 2012). If necessary, a driver should facilitate the use of blue lights and a siren to clear obstructing traffic. Senior staff should advise regarding speed, bearing the patient's clinical condition in mind in terms of the urgency of the patient's condition. If clinical emergencies arise and the patient requires intervention, the vehicle should be stopped appropriately in a safe place before intervention is given. All staff in the vehicle must obey the instructions of the senior transfer staff for their and others' safety.

Moreover, the staff should continue reassessment and close monitoring of the condition of patients during transfer (Gray et al., 2004). The transfer staff should be concerned

about critical adverse events during transfer. These include major cardiorespiratory deteriorations, such as apnoea, hypoventilation, arrhythmia, hypotension, inadequately positioned or secured endotracheal tubes. Minor complications are those which may be solved without any invasive intervention or additional pharmacological treatment, such as neurological deterioration, poor temperature control, inappropriate administration or non-administration of drugs. The ICS (2011) states that risks to critically ill patients increase from potential deterioration of the underlying medical condition and the physiological effects of movement (tipping, vibration, and acceleration and deceleration forces). Also harmful to both the patient and staff are accidents related to any mode of transport. As Markakis et al. (2006) found, hemodynamic instability was the most common problem during transfer of patients with a trauma, head trauma and acute myocardial infarction; despite all these, patients were physiologically stable before transportation. The situation during the transfer such as patient's condition, treatment given, adverse events, and so on should be formally recorded.

3.4.2.7 Documentation and handover

The essential factor in the transfer of critically ill patients is good communication between referring and receiving medical and nursing staff before and during transfer, and on arrival at the receiving hospital. A number of documents, checklists and transfer forms have been published. A written or digital record of the patient should be completed during the transfer. On arrival at the receiving hospital there must be direct communication between the referral and receiving teams. A record of the patient's history, ongoing record of physiological status, treatment and clinical procedures, and any subsequent interventions during transfer, investigating results should be described and handed over to ensure safety and continuity of care (Lamond, 2000). The transferring team should retain a record of the transfer on a prepared form for future audit (Gray et al., 2004, ICS, 2011, ACEM, 2015).

The information ideally should be accurate and reliable across transitions to ensure safety and continuity of care. However, it has been suggested that there are potential communication issues and a significant variation in both handover content and the structure of patient handover within and across health care settings (Riesenberg et al.,

2009, Raduma-Tomás et al., 2011). Complex clinical environments, cultural, and behavioural factors adversely influence effective handover and collaborative care (Patterson and Wears, 2010, Frankel et al., 2012). Moreover, most studies examine clinical handover at the point of the actual handover meeting; however, the pre-handover or handover preparation shows it is often insufficient (Catchpole et al., 2007, Jenkin et al., 2007, McFetridge et al., 2007, Manser and Foster, 2011). Recent studies found that the communication (team) failure often occurs and is related to incidents of adverse events during transfer (Gimenez et al., 2017).

After reflection on the evidence and recommendation for safe inter-hospital transfer, it is important to understand the perspectives of quality and safety of care which are discussed in the next section.

3.5 The perspective of quality and safety of care

The quality and safety of care have become a worldwide issue since the two national seminar reports (e.g. ‘An organisation with a memory’ and ‘To err is human’) on quality of care and patient safety were reported due to the number of errors in healthcare service within the UK and the USA (Department of Health, 2000b, Institute of Medicine, 2000). Both reports place emphasis on deficiencies in the quality of care and patient safety, and outline strategies for new reform of quality of care.

3.5.1 Definition of terms relating to quality of care and patient safety

The meaning of the term ‘quality of care’ and ‘patient safety’ within the healthcare context is complex and it is abstract term (Donabedian, 1969, Institute of Medicine, 2000, Pronovost et al., 2009, Haxby et al., 2010). The definitions of quality of care by Avedis Donabedian and by the National Academy of Medicine (NAM) (formerly the Institute of Medicine) have been particularly influential.

Donabedian (Donabedian, 1980, pp. 5-6) has defined high quality care as “that kind of care which is expected to maximize an inclusive measure of patient welfare, after one has taken account of the balance of expected gains and losses that attend the process of care in all its part.” However, the Institute of Medicine (1990, p. 21) described

quality as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.” In order to achieve this, healthcare must be safe, effective, people-centred, timely, efficient, and equitable (Berwick, 2002). There are close variations of this meaning used in the UK, the NHS has introduced ‘clinical governance’ to ensure quality and safety of care (Department of Health, 2000b). Based on these attributes, defined quality of care is composed of the following dimensions: employment of appropriate medical procedures, awareness and correct handling of risk, how the patient experiences the care, use of effective and clear communication between those involved, use of appropriate materials and resources, and employment of effective strategies and learning (Haxby et al., 2010, Jaggs-Fowler, 2011). The framework of quality of care both in the UK and US has identified patient safety as a core element of broader quality of care (Donaldson, 2002, Vincent, 2010).

In respect of patient safety, safety is defined by the Institute of Medicine (2000, p. 4) as “freedom from accident or injury.” However, patient safety, which is one key component of clinical governance, means “protection of patients against harm that results from the efforts or lack of efforts of the healthcare system” (Haxby et al., 2010, p. 5). This meaning is similar to that of Vincent (2010, p. 31) who defines patient safety as “the avoidance, prevention and amelioration of adverse outcomes or injuries stemming from the process of healthcare.” Vincent’s definition mentions the amelioration of adverse outcomes or injuries occurring, which extends from other definitions.

According to the literature, quality of care and patient safety have various definitions and are abstract terms. Patient safety is one dimension of the quality of care. The terms relating to harm, errors and accidents are derived from the terms used in patient safety. Hence, this research study uses the term quality of care to encapsulate patient safety and combines these terms together.

3.5.2 The concept of quality and safety of care

The quality of care and patient safety conceptual models/frameworks focus primarily on measurement and improvement of nursing care quality and patient safety through patient outcomes and patient satisfaction (Institute of Medicine, 1990, Pronovost et al., 2009, Pincus et al., 2011). Also, the advancement of knowledge about the quality of care and patient safety is extensive and there is continuing development in response to a quality improvement over time since Donabedian introduced the concepts of structure, process and outcome in the 1960s, and this remains to our day as the dominant paradigm for the assessment of the quality of health care (Frenk, 2000). His quality assessment framework is based on three distinct components (structure-process-outcome) (Donabedian, 1966, 1988). These three components (Donabedian, 1966, pp. 167-170) are explained as following: “(1) Patient outcomes – the result of care in terms of recovery, restoration of function and survival, (2) Process of care – the practices involved in the delivery of care, and (3) Structure of care – the way the healthcare setting and/or system provided care.”

While the quality model of Donabedian provides a basic knowledge for understanding quality and safety improvement, Donabedian’s work does not incorporate culture within his model (Donabedian, 1966, 1988). For half a century, the literature demonstrates that culture and context has an influence on the delivery of health care, in particular safety culture as identified by the Institute of Medicine (2000). Organisational safety culture in healthcare services is another component that should be added into this contemporary conceptual framework. Safety culture can be defined as the shared values among members of an organisation concerning what is important, how they think things should be carried out, and how things work in workplaces and organisational structures. These together produce behavioural norms in the organisation to promote safety both of patients and healthcare providers (Pronovost et al., 2009, Singer et al., 2009). Hence, the contemporary model for quality of care and safety has been developed by Pronovost et al. (2009) by plus Donabedian’s model (structure-process-outcome) with a fourth type of measure (context/safety culture). This conceptual model is divided into four domains: (i) have we reduced the likelihood of harm (structure measure)?; (ii) how often do we do what we are supposed to (process

measure)?; (iii) how often do we harm (outcome measure)?; and (iv) have we created a safe culture (culture measure)? The principal of their conceptual model focuses primarily on the type of quality of care and patient safety measures of each these components.

The other two conceptual frameworks are relevant to the quality and patient safety that have been well captured by the two national health care organisations since 2000. First, ‘Crossing the Quality Chasm’ was launched by the Institute of Medicine: this has six specific aims for quality improvement (e.g. safe, effective, patient-centred, timely, efficient, and equitable) (Institute of Medicine, 2001, Berwick, 2002). Second, ‘Clinical governance’ has been introduced by the National Health Service (NHS) through the seven pillars model (e.g. clinical effectiveness, risk management, patient experience, communication effectiveness, resource effectiveness, strategic effectiveness, and learning effectiveness) to ensure the health service in patient-centred (Haxby et al., 2010, Jaggs-Fowler, 2011). A framework of clinical governance is accountable for continually improving the quality of healthcare service and safeguarding high standards of care by creating a good working environment (Scally and Donaldson, 1998, Haxby et al., 2010).

Reason’s Swiss Cheese Model is one patient safety model that has been widely used by organisations (Donaldson, 2002, Stein and Heiss, 2015) and is recommended by WHO (World Health Organization, 2011) to ensure patient safety in healthcare systems. This model emphasises that errors are common in healthcare but they result from system failures rather than individual mistakes. Reason’s model below (Figure 4) shows different types of factors (latent, error-producing, active failures and defences) associated with the incidence of adverse events. The solid parts of each slide are the system’s defence (e.g. awareness, restoration of system, alarms and warning, safety barriers) and the holes are the vulnerabilities. A fault in one layer of the organisation is usually not sufficient to cause incidents.

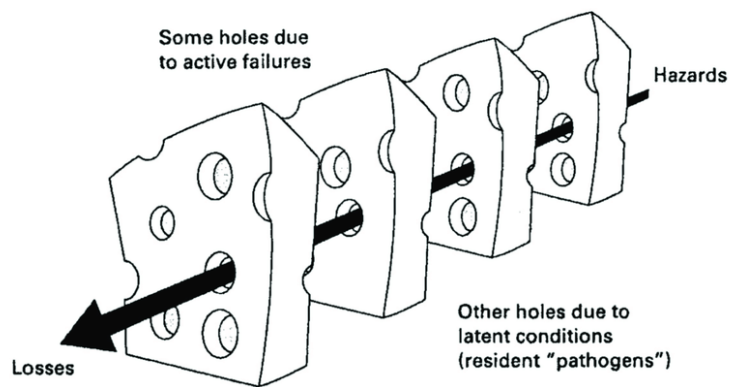


Figure 4: Reason's Swiss Cheese Model of system accidents³

The diagram shows that danger arises when a set of holes lines up or temporarily line up to permit a trajectory of accident opportunity. Some of the holes (the risk) are caused by unsafe action committed by individuals (e.g. slips, mistakes, lapses or violations of procedures). However, many factors are due to 'latent' conditions or factors in the organisational system which create preconditions for failure (e.g. lack of training, absence of procedure, poor equipment). Many people may not recognise these issues, but when errors occur in combination with these latent conditions, a serious incident can occur. If an organisation anticipates failure, it minimises the hidden latent conditions that allow actual or 'active' failures to cause harm. The importance of the Swiss Cheese Model is that it facilitates an increased awareness of the conditions which predispose to error. It also encourages systems thinking and a preventive approach based on risk management (Donaldson, 2002).

After the basic knowledge about the perspective of quality and safety of care is provided, the next section is the identification of knowledge gaps.

³ From https://www.researchgate.net/figure/Swiss-cheese-model-of-system-accidents-Reason-2000_fig2_318131822

3.6 Research gap of inter-hospital transfer of critically ill patients in Thailand

As stated in Chapter Two, inter-hospital transfer in Thailand has recently been regulated by law (Notification of the Ministry of Public Health, 2002) and by a national guideline (National Institute for Emergency Medicine, 2014) prescribing a coordinating role for referring and receiving hospitals; however, quality and safety of inter-hospital transfer care of critically ill patients in nursing practice and education in Thailand is limited. Most reports are anecdotal records about the incidents or adverse events that have occurred during the transfer of patients at the tertiary centres. The study by Limprayoon et al. (2005), for example, found that there was no documented data of critical paediatric patients being monitored during the transfer of these children to the paediatric intensive care unit at Siriraj hospital. No studies were found that are relevant to nurses' experience during inter-hospital transferring process in a critically ill patient group.

The transfer of critically ill patients between public hospitals in Thailand depends on the capacity level of hospitals at various levels. Almost all inter-hospital transfers are by standard ambulances with limited monitoring capabilities and minimal staff guidance during transfer. At the tertiary hospital care level, the transfer is performed by an ambulance with ED nurses and a driver, and is occasionally accompanied by an ICU nurse or a physician. In primary and secondary hospital care (e.g. a community hospital), most transfers are provided by an ambulance with ED nurses or nurses from various other departments depending on the local policy of each hospital. Inter-hospital transfers are often undertaken by young, newly-registered nurses, leading to high rates of incidents. However, the quality and safety of care throughout the inter-hospital transfer processes from the transfer nurses' experience and perspectives has not been explored in real practice settings that might illuminate the complexity of transfer care of critically ill patients. This represents an important gap in knowledge. Therefore, in-depth insight concerning the quality of care and patient safety provided by transfer nurses is required where the contextual factors in play are unravelled to fully explore the phenomenon.

From the existing literature, the definition of quality and safety provision in healthcare service is abstract; there are several meanings depending on the healthcare context (Institute of Medicine, 2000, Kunaviktikul et al., 2001). There is also a language of quality, with its own frequently-used terms (World Health Organisation, 2006). Many diverse researchers have attempted to define quality of nursing care, and practising nurses have taken part in studies which aim to quantify the quality of nursing care; there is, however, a lack of evidence of their effect on the development of measures (Burhans and Alligood, 2010). Furthermore, the creators of the measures are often nurse leaders, educators, researchers, or organisations who, by virtue of their positions, are not in practising nurse-care roles. This has led practising nurses' interpretations of quality and provision of care to be inadequately represented. Burhans and Alligood (2010) state that, with 2.6 million nurses in the USA delivering patient care, their evaluation of that care is done without a shared understanding of what quality nursing care really means. Therefore, initiatives to improve quality and safety of transfer care for critically ill patient require some understanding of what is meant by 'quality and safety of care' as a starting point. Without this understanding, it is impossible to determine how these outcomes are to be achieved (World Health Organisation, 2006, Burhans and Alligood, 2010). The focus of this guide must begin at the micro level of health systems before progressing to a 'whole' system, and on the quality of the outcomes that they generate.

Furthermore, research studies associated with the safe inter-hospital transfer of critically ill patients, reviewed in this study focus primarily on measurement of quality through patient outcomes, such as the incidence of adverse events, mortality, and urgent intervention on ICU (Droogh et al., 2012b, Ramnarayan and Polke, 2012, Alabdali et al., 2017). These data are necessary, but do not address provision of care from transfer nurses' perspective. Lack of information about the provision of care limit the opportunity for improvement. To improve the quality and safety of transfer care, it is also necessary to obtain information about causal linkages between contextual factors and the quality and safety of transfer care. Understanding supporting and impeding factors can make the way forward to improvement much more clear.

For these aforementioned reasons, it is essential to study the delivery of care for safe inter-hospital transfer for critically ill patients, and to evaluate the experience of transfer nurses from Thai rural community hospitals and from the regional hospital on which they rely upon for support.

3.7 Summary

Inter-hospital transfer is a complex process because there are several phases requiring different healthcare professionals who deal with the complex healthcare needs of patients. In this respect, I have reviewed research on inter-hospital transfer of critically ill patients and the theoretical perspectives underpinning quality and safety of care. I have identified gaps in present knowledge on the actual practice of inter-hospital transfer care, especially lack of knowledge relating to the meaning of quality and safety of transfer care, provision of safe transfer care and contextual factors that influence the quality and safety of care. In addition, there are no empirical studies exploring quality and safety throughout the processes of inter-hospital transfer care. Existing literature indicates that there is very limited data on this area of research from transfer nurses' perspectives, either in Thailand or in other countries.

In Chapter Four I discuss research methodology and the design of the study.

Chapter Four: Research Methodology and Design of the Study

4.1 Introduction

As addressed in the literature review, many studies focus on complications or adverse events, morbidity and mortality rates of critically ill patients during inter-hospital transfers (Barry and Ralston, 1994, Odetola et al., 2009, Odetola et al., 2015, Ranasinghe et al., 2015), while there are few studies conducted in this field; specifically, in exploring the quality of care provided by transfer nurses throughout the processes of inter-hospital transfer. The review is clear that little is known in relation to the organisational structure and context (culture) of community hospitals that influence the quality of care and patient safety during transfer. My aim is to fill this knowledge gap by exploring clinical experiences of transfer nurses from community hospitals in providing care for critically ill patients during transferring these patients to the central hospital. In order to understand how these nurses provide their care to these patients during transfer, a qualitative approach called focused ethnography is fitting for this inquiry when little is known in this area with inconsistent data collection process.

In this chapter, I provide a detailed account of the focused ethnographic research and qualitative approach that I used to address my research aim and questions (see section 4.2). I first identify the philosophical assumptions behind the approach underpinning this study. I then discuss the methodology and the justification for my choice of using focused ethnographic research. Based on the focused ethnographic approach, I detail the rationale for my selection of fieldwork for my study. I then explain my use of testimonies from transfer nurses resulting from extensive interviews to explore their experiences of patient transfer practice. In addition to the nurse testimonies, I explain the use of evidence gathered from observation, and from the use of written patient transfer documents. These three types of data are then combined in order to evaluate wider patient transfer experiences.

4.2 The research aim and research questions

As I stated in Chapter One, I generated the research questions from the literature and from my experience in health management of critically ill patients in the emergency department. The research aim is formulated as follows:

To explore the delivery of quality of care during inter-hospital transfers of critically ill patients from rural community hospitals to a regional hospital in Thailand

The following research questions are posed in order to achieve the aim of the study:

- i. What is the quality of inter-hospital transfer care for critically ill patients from rural community hospitals to a regional hospital in Thailand?
- ii. How do the transfer nurses provide quality of care for critically ill patients during inter-hospital transfer from rural community hospitals to a regional hospital in Thailand?
- iii. What are the contextual factors that influence the quality of care during transportation of critically ill patients from rural community hospitals to a regional hospital in Thailand?

The aim is to gather data about inter-hospital transfer of critical ill patients; especially, from nurses' perspectives, which particularly focus on the processes of inter-hospital transfer care of critically ill patients from the experience of referring nurses at community hospitals and receiving nurses at the regional hospital. The method I employ to address these research questions is guided by 'constructivism' and 'symbolic interactionism' as my philosophical assumptions.

4.3 The philosophical assumptions of the study

In this section, I have identified and justified a set of understandings and philosophical assumptions (i.e. ontological, epistemological and theoretical perspectives) that guide my research design (ethnographic research), method of data collection and data analysis.

4.3.1 Ontology perspective

The ontology, the nature of social reality, is composed under the interpretive framework recognised as ‘social constructivism’ (Guba and Lincoln, 1989, Creswell, 2013). The broad premise of constructivism is that there is no objective reality that exists independently from people, but that as human beings we interpret and make the world through social constructions and knowledge (Crotty, 1998, Denzin and Lincoln, 1998). Social constructivism asserts that subjective meanings of individuals are multiple and varied. These meanings are formed through interactions with other people and often are socially and historically negotiated (Creswell, 2013). Crotty (1998, p. 42) defines constructivism as follows:

[I]t is the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context.

The social constructivist thinking emphasises that human beings are constantly engaged in the process of knowledge and meaning development through interactions with others and through historical and cultural norms that operate in individual life. Different people also construct meanings in different ways even although the constructed meanings are related to the same phenomenon. This is because people approach the world differently. However, the constructed meanings cannot be interpreted without considering the social contexts in which transfer nurses live and work (Creswell, 2013).

In this regard, my ontological perspective is multiple and socially constructed – and tends to identify subjective meanings rather than to be objectively determined (Guba and Lincoln, 1989). These meanings are multiple and vary from individuals experiences. However, I avoid applying ontology that asserts a single reality, such as a realist or post-positivist ontology. Realist ontology focuses on the realities governed by any natural laws or cause-effect forms in positivist research (Guba and Lincoln, 1989). Post-positivist states that a single reality exists beyond ourselves and the researcher may not be able to understand it or achieve it because the evidence is open to challenge when explored (Creswell, 2013).

4.3.2 Epistemological perspective

Linking with ontology in this research, the understanding of the experience of transfer nurses is influenced through an epistemological lens (Creswell, 2013). I attempt to elucidate how we come to understand certain things about individual reconstructions coalescing around consensus from transfer nurses; and what has occurred through transfer nurses' lives (Denzin and Lincoln, 1998, Saks and Allsop, 2007). The goal of the current approach is to rely as much as possible on the process of transfer care, which is understood as the interaction between referring nurses and receiving nurses; and the transfer nurses' views of their experiences while accompanying critically ill patients to the regional hospital, or receiving the patients transferred from community hospitals. The quality and safety of transfer care involves the experiences of patients, and stakeholders such as family members and political and regulatory bodies (World Health Organization, 2006), but these patients' and stakeholders' experiences were not part of this research.

To gain understanding of transfer nurses' behaviours; therefore, I must explore the language and actions of the participants and describe their perceptions of reality. Focusing on these participants' viewpoints necessitates an 'emic' approach, which requires the researcher to enter the participants' daily lives. As Harris (2001, p. 578) suggests, an emic approach "is premised on the assumption that between the actor and observer, it is the actor who is better able to know his own inner state." Therefore, participation in the field where transfer nurses work is necessary for understanding the context of behaviour among transfer nurses (Mason, 2002, Creswell, 2013), which is a way of explaining the knowledge we gain from transfer nurses' experience.

In addition, the multiple realities of constructivism led the researcher to look for complexities of views rather than narrowing the meanings into a few categories or ideas (Stake, 1995, Creswell, 2013). Because multiple realities are constructed through life experiences and interactions with others to form the complexity of views, it is necessary to learn this by studying different settings/contexts for transfer nurses in delivering transfer care. This includes the use of an inductive approach to develop

ideas of transfer nurses' experience through multiple methods of data collection, such as observing, interviewing, and analysis of texts (Creswell, 2013).

In summary, the quality of inter-hospital transfer care from the perspective of transfer nurses in this thesis assumes multiple realities that are constructed from social interaction in a particular context of community and regional hospitals where the transfer nurses work. Spending time during several field visits with transfer nurses, I digitally recorded conversations, and took the observation notes and quotations which were gathered as evidence (Mason, 2002, Creswell, 2013).

4.3.3 Theoretical framework perspective

The meanings that transfer nurses constructed through their interactions can be addressed using a constructivist paradigm, 'symbolic interactionism (SI)' as the theoretical perspective used in this study. A brief introduction to the theory of SI is explained in this section. SI relates back to the work of George Herbert Mead (Mead, 1934) and his student, Herbert Blumer (Blumer, 1986), who built on Mead's work.

According to Blumer (1986), there are three basic SI premises. First, human beings act towards objects and other beings in their environment on the basis of the meanings that these things have for them. Next, these meanings derive from communication or social interaction among individuals. Communication is symbolic because people communicate from a conversation consisting of gestures and language; further, in communicating we create or produce significant symbols. Finally, these meanings are established and modified through an interpretive process. Of 'objects' in SI, Mead (1934, p.77) states:

Objects are constituted in terms of meanings within the social process of experience and behaviour through the mutual adjustment to one another of the responses or actions of the various individual organisms involved in that process, and adjustment made possible by means of a communication which takes the form of a conversation of gestures in the earlier evolutionary stages of that process, and of language in its later stages.

The term 'object' that Mead used in a broader sense means anything that can be referred to or designated. This can be hard and physical things, material or immaterial, real or

imaginary (e.g. a table, a friend, a horse), and abstract things (e.g. liberty, charity, intelligence, sensation). In this legitimate sense of being anything that can be designated or referred to, 'objects' by Mead (Blumer, 2004) in this study refers to anything involved in inter-hospital transfer care. If an individual transfer nurse notes, or is aware of, any one of these things, it is an object for that individual transfer nurse.

In respect of the characteristics of SI, this approach believes that people act towards objects based on the meanings that people construct and then engage in mindful, self-reflexive behaviours through human interaction and interpretation over time (Blumer, 1986). Mead (1934, p. 173) describes the perspective of 'the self' as cognitive. It lies in the internalised conversation of gestures that constitutes thinking, or in terms of which thought or reflection proceeds. The self includes the 'me' and the 'I' perspective and thus, on a self-reflexive process, contributes significantly to meaning making.

This premise points to how the self is actualised through interaction with others. According to the self of transfer nurses in this study, the 'me' is considered as the socialised aspect of the individual nurse. It represents learning behaviours, attitudes, and expectations of others and of society. The 'me' is reflected from a phase of the self of a transfer nurse in the past. It also has been developed through knowledge of society and social interactions that the individual nurse has gained. The 'I', hence, can be recognised as the present and future phase of the self. The 'I' represents the individual transfer nurse identified, based on response to the 'me'. The 'I' and the 'me' lie in the process of thinking and they have a relationship like a system of checks and balances. The 'me' acts as society's control of one's self. The 'me' is to prevent someone from breaking the rules or boundaries of society's control over one's self. The 'I' allows the individual to express creatively and individualistically, and to understand when to possibly bend and stretch the rules that govern social interaction (Mead, 1934). In summary, the importance of 'the self' in social process is to interpret and take in other people's attitudes, and convert them to one's own, and in later interactions with others, act out the attitude derived from others.

As regards symbolic interactionism, this approach asserts that humans learn and understand themselves and the systems of communication they use and learn about

society through communicating and being with others. Each person simultaneously carries on conversations with himself or herself and with significant others. Behaviour is observable at the symbolic and interactional levels (Denzin, 1989). Furthermore, the conversation of motions is a part of an ongoing social process. This is not something that the human being does in a vacuum. The development of communication systems has made it possible for an individual to adopt the external social situation into his or her own behaviour. This facilitates enormous progress in society, and allows people to be able to judge what others will think of their actions and to adjust their behaviour accordingly. This process becomes what we call 'a social situation' which one perceives and interprets and thus gives rise to her or his attitude through manifestation of the self (Denzin, 1989, Carter and Fuller, 2015). It can be seen that SI advocates a particular theoretical framework assumption in this study because it sees meaning and human behaviour as the fundamental components of the interaction of humans and society (Patton, 2002, Bazeley, 2013). In this respect, people create shared meanings through their interaction, and those meanings become their reality. Therefore, SI enables the researcher to understand transfer nurses by the meanings they value from their lived experience and social interaction, the existence of symbols (behaviour, patterns of action, or social structure) resulting from individual actions, which are the basis from which meaning is derived. Indeed, meaning in SI is never static; rather, it is always shifting, emergent, and ultimately ambiguous. Meaning will depend upon the definitions of significant others and interaction with them. In particular, the self is a process built out of shifting meaning through interaction and encounters (Plummer, 2000).

This section therefore explains how SI is applied in this study. To understand the meaning of quality and safety in inter-hospital transfer care from transfer nurses' perception, interactions with others who are associated with the inter-hospital transfer care need to be explored. In order to understand the delivery of inter-hospital transfer care provided by transfer nurses using SI, I tried to observe and capture: (i) the symbols – the abstract meanings attached to an object, people, and/or behaviour – or various languages provided and communicated through the inter-hospital transfer process; and (ii) the concrete behavioural patterns of transfer nurses that reflect the symbols and conception of self. This includes verbal and nonverbal, or intended and unintended

behaviour, gestures, styles of living and dress. All provide clues to the ‘symbolic meanings’ that become translated into interaction and emerge from it (Denzin, 1989; Blumer, 1986).

4.4 Research design

In this section, the research questions and the philological position posed for this study help to focus on the identification of research designs, methods of study, the choice of setting of the study, and subsequent analysis (Mason, 2002). I offer consideration of the methodology and methods underpinning my research that are used to answer the aims and research questions. I focus upon the quality of care from transfer nurses’ experience during the transfer of critically ill patients from rural community hospitals to a tertiary hospital. Therefore, I have engaged in research settings (e.g. various community hospitals and a tertiary regional hospital). I therefore have experienced and observed first hand a range of dimensions in, and of, that unique complex setting. This includes examining interaction, social actions, behaviour with its contexts, as well as events surrounding the daily lives of transfer nurses (Mason, 2002). I required a research approach that could identify multiple realities from transfer nurses in the context of different rural community hospitals in Thailand. This values discourse and observation data (Mason, 2002, Stake, 2006). An ethnographic approach satisfied this aim.

4.4.1 The use of qualitative research

The literature review (Chapter Three) illustrates that little is known about the quality of inter-hospital transfer care provided by transfer nurses in Thailand. Also, the inter-hospital transfer of critically ill patients associated with quality and patient safety lies in its complexity and multi-dimensional nature. In addition, the interaction of transfer nurses involves many professional practitioners, the severity of the condition of critically ill patients, and health care organisational structures and cultures (Droogh et al., 2015). This study aims to understand the reality of the quality of care and safety during inter-hospital transfer of critically ill patients, and how it is achieved. This is constructed from transfer nurses’ own experiences and their interaction with others (Creswell, 2013). I have a particular interest in understanding the social phenomena,

and of capturing multiple realities from the experience of transfer nurses because of adverse events and handover issues found occurring between referring nurses of community hospitals and receiving staff of the regional hospital (see section 1.1 in Chapter One). The research design should offer the opportunity to gain an in-depth understanding of the multiple realities of how transfer nurses deliver quality of care and safety during transfer of critically ill patients. Consequently, I considered qualitative research to be the most suitable approach to achieve this research aim.

Qualitative enquiry has the potential to reveal the transfer care processes in order to generate knowledge for practitioners to consider meaningful change and improvement (Mason, 2002). Also, the qualitative approach achieves insights through discovery of multiple reality meanings, investigating and furthering understanding of these complex phenomena, and interpretation of events (Burns and Grove, 2001). Similarly, Melia (2010) states that the attractions of qualitative methods for research in the health field are not only their flexibility, which can be more responsive to the individual dimensions of health care, but that they also offer the possibility of understanding the experiences of health, illness and the delivery of care from the perspective of the patients. Additionally, Pope et al. (2002) assert that qualitative research offers several methods of data collection for investigating what really matters to patients and carers, detecting impediments to performance change, and amplification of why improvement does or does not happen. It produces findings relative to patients and care providers by connecting them to their experience and social and organisational environments. This could lead to a better understanding of how to improve quality of care.

The choice of research methodology for conducting qualitative research is determined by a combination of constructivism and a symbolic interactionist perspective towards an interpretivist (qualitative) approach. The criterion for the selection of a qualitative approach is based on methodological appropriateness that eventually enhances methodological quality (Patton, 2002, Creswell, 2013). There are several qualitative approaches that are underpinned by different philosophical assumptions, such as grounded theory, phenomenology and ethnography (Speziale and Carpenter, 2007, Creswell, 2013). However, in-depth exploration of all three qualitative methodologies is beyond the scope of this study. In the next section, I illustrate a detailed explanation

and justification of why I have selected focused ethnographic research design to gain an interpretative and emic understanding of quality of inter-hospital transfer care from transfer nurse's experience.

4.4.2 Rationale of ethnographic research

This study aims to investigate in-depth to what level and how transfer nurses deliver quality and safety throughout the inter-hospital transfer processes from transfer nurses' experience. This includes exploring the contextual factors that impact on clinical situations. To achieve these research aims, it is important to comprehend the realities of transfer care in their natural situations as socially and empirically based on experiences of transfer nurses (Bryman, 2015). An ethnographic approach is adopted for this study because of its applicability to the research aims and questions. Ethnographic research is concerned with understanding from the subjective experiences of individuals, and so is suitable for a study that focuses on the culture of transfer nurses (Silverman, 2010).

In addition, the provision of inter-hospital transfer care is socially and culturally constructed. It reflects social reality, the behaviour and points of view, and the ways of understanding and communicating of those involved (Morse, 2007). Symbolic and cultural (contextual) construction of behaviour occurs through the relationship between transfer nurses within a group and with other social groups (Morse, 2007). Based on this perspective, transfer nurses' behaviour is influenced by both society and culture and so can be understood from an ethnographic perspective. Furthermore, the focus of this type of research approach is by observation of a phenomenon in its normal environment in order to promote knowledge for the provision of culturally specific care in a healthcare setting (Speziale and Carpenter, 2007).

Ethnography is a methodology comprising iterative-inductive research, including recruitment participants with an insider role and so gaining an insider perspective (Knoblauch, 2005, O'Reilly, 2009). It can be employed in the investigation of a research field specific to transfer care which is culturally or contextually highly differentiated and fragmented between referring and receiving hospitals as each hospital setting has its own behavioural norms (Knoblauch, 2005, Morse, 2007,

Creswell, 2013). As Angrosino (2012) and Creswell (2013) suggest, ethnography is appropriate if the needs are to describe and interpret shared and learned patterns (also described as rituals) of values, beliefs, language, and behaviour of a culture-sharing group, including gathering information in the context or setting where the group works or lives (Atkinson and Hammersley, 2007).

Additionally, ethnography represents empirical enquiry that allows the researcher to retain holistic and meaningful characteristics of the real-life events of transfer nurses in the collective sense. As such, it is a way of studying transfer nurses in community and regional hospital contexts, cultures, and more specifically, clinical situations, which may be referred to as communities or societies of transfer nurses (Angrosino, 2012). Moreover, as Atkinson and Hammersley (2007) argue, an ethnographic approach enhances understanding of the uniqueness and commonality within the complex context of social phenomena. Apart from the processes of hospital transfer care and the nature of a critically ill patient's condition, the complexity of transfer care is influenced by contexts (e.g. organisational structure, health policy, and other demographic variables) (Pronovost et al., 2008, Bourgeault et al., 2010, Mosadeghrad, 2014).

Therefore, ethnographic research has been clearly described as an approach that is well-suited for the study of the social realities of transfer nurses' experiences and accounts of their working lives (Atkinson and Hammersley, 2007, Creswell, 2013).

4.4.3 A focused ethnography underpinning the study

Focused ethnography is appropriate for this study for several reasons. Firstly, a focused ethnography homed in a specific or narrow area of inquiry, which involved participation in community and regional hospitals within short-term field visits. For this reason, a focused ethnography can emphasise transfer care practice of referring and receiving nurses throughout inter-hospital transfer processes within their context (Knoblauch, 2005). Secondly, this type of research design has been found to be useful for the implementation of ethnography in particular situations requiring experience of culture and sub-cultures among transfer nurses (Knoblauch, 2005). Thirdly, the entities studied in a focused ethnography not only to represent social groups, but also reveal situations, interactions, activities and environmental care meaning and attributes,

which may not require formal linguistic classification of all data. In this respect, it is appropriate for a study that needs to explore performance during inter-hospital transfer care, particularly of critically ill patients from community hospitals to the regional hospital as they occur in daily social interaction (Dixon-Woods, 2003, Knoblauch, 2005).

Fourthly, this approach emphasises the communicative activities and experiences of transfer nurses instead of social aspects as in traditional ethnographic methodologies (Knoblauch, 2005). Finally, observation (observation or field-observer role) still plays a crucial role in a focused ethnography as well as individual analysis as in conventional ethnography (Knoblauch, 2005, Speziale and Carpenter, 2007), but observation is supported by modern technologies, such as a digital recorder or camera, closed circuit television (CCTV), and video (Knoblauch, 2005). These technologies allow additional information for transcriptions as well as in the field observations. As Higginbottom (2011, p. 3) argues, “a focus[ed] ethnography is well-matched for healthcare research, answering specific questions, and is characterised by: (i) conceptual orientation of a single researcher; (ii) focus on a discrete community or organisation; (iii) being problem-focused within a specific context; (iv) involvement of a limited number of participants who usually possess specific knowledge; and (v) episodic participant observation.”

4.4.4 Limitations of using focused ethnographic research

Despite these preferences, focused ethnographic research has limitations and has been subject to criticism. Firstly, traditional and focused ethnographies differ with respect to their demands on time. For example, the shorter duration of fieldwork in focused ethnographies is compensated by using multiple methods of data collection (i.e. observations, semi-structured interviews with digital recording, and transfer documents) in order to gain detailed description of the data (Angrosino, 2012). In addition, some literature reflects lack of scientific rigour in ethnographic research, including access problems and issues surrounding the role of ethnographic researchers (Wolcott, 1999, Speziale and Carpenter, 2007). However, I challenge the claim of lack of scientific rigour, which will be discussed in section 5.5 while the problems of

access to the field will be discussed in the section 5.2. Criticism related to the role of the ethnographic researcher has caused particular concern (Fetterman, 2010) and will be discussed in the section 5.2.1 and 5.6 (Chapter Five).

For the reasons given above, ethnography is an appropriate research design for certain important research tasks in the social sciences, and it is a methodology that holds up well when compared to other methodologies in social science research. It could be concluded that an ethnographic approach allows for the study of multiple realities of the particularity and complexity of inter-hospital transfer care, aiding understanding of activities within important contexts. This approach is valuable for health science research in order to explore transfer care experience because of its flexibility and rigour.

4.5 Research methods

Following on from the focused ethnography underpinning this study, this section explains the research methods. First, I explain the use of multiple methods in order to provide a fuller picture of transfer nurses' experiences in the context of community and regional hospitals. I then describe the research settings, and the selection and recruitment of participants. Finally, I consider the procedure for identifying critically ill patients who need to be transferred to a tertiary hospital.

4.5.1 Multiple qualitative methods underpinning this study

In this study, the combination of multiple qualitative data collection techniques was used. This includes observations, semi-structured individual interviews, and an analysis of documentation. In ethnography, using different sources of information to corroborate responses is necessary to disentangle and resolve the complexity of the phenomenon being studied (Angrosino, 2012, Creswell, 2013).

The critical reason for the use of different methods is because multiple qualitative methods aid understanding of complexity of the phenomena and the multiple realities. Regardless of which ontological, epistemological and methodological perspectives are used to underpin this research, multiple methods are used to acknowledge multiple perspectives and show that these are socially constructed. It is also to ensure that the

phenomenon studied is explored through multiple facets (Baxter and Jack, 2008). Additionally, gathering multiple perspectives from a variety of sources can be applied in order to look for divergence of the phenomena (Mathison, 1988). It can be used to explore different the perspectives of transfer nurses from both community and regional hospital settings, and to understand what they do, or do not do, in a particular context; it explores how different views were constructed; how they were interpreted; and to what extent they differ.

A multi-method approach is a process where different methods and perspectives intersect rather than provide a flat confirmation and convergence of data, which are traditional conceptions of triangulation located within a realist agenda (Simons, 2010). As Mays and Pope (2000, p.51) argue, “this is controversial as a genuine test of validity because it assumes that any weaknesses in one method will be compensated by strength in another, and that it is always possible to adjudicate between different accounts”, such as from interviews with referring nurses and receiving nurses. Therefore, using a multi-method approach as divergence assumption helps to allow an interpretation of the data to be made and to be proven and may understood as a method of making sure all factors have been considered and reflected upon. This method, therefore, assists the credibility of the findings (Denzin, 1989, Mays and Pope, 2000, Casey and Murphy, 2009). The reason of combining methods for divergence in this study may be important in determining accuracy and meaning of interpretations of convergence (Mathison, 1988, Simons, 2010). To illustrate, the analysis of field notes during semi-structured interviews from all receiving nurses in this study showed:

The receiving nurses reminded themselves that there is no structure for handover between the dispatch nurses of the referring centre and the ED staff. [Field note p.43.REG]

The unstructured handover among receiving staff resulted in interpersonal conflicts between the referring and receiving nurses during the handover upon arrival at the REG hospital, as described in interview data from Maliwan, a referring nurse:

I doubted ... if the ED staff co-operated with each other. Why did they repeatedly ask the same questions? [Maliwan.P3COM1]

Meanwhile, the receiving nurses were dissatisfied with the quality of patient information from referring nurses from community hospitals as this extract from Pensri, a receiving nurse, shows:

They didn't know the patient information? Why couldn't they answer our questions? They should know the patient's data. [Pensri.P1 REG]

And from Suthep, a receiving nurse:

The relationship between the community hospital and regional hospital is affected. They blame each other as to why this or that is not done. This causes various problems and obstacles, including the development [of the referral system]" [Suthep.P3REG].

From the extracts above, it can be seen that there were different views expressed by transfer nurses at the receiving and referring hospitals. This is a consequence of an unstructured handover process between both hospital settings.

Multiple methods of data collection also allow several important opportunities to address research questions. They are combined for the purpose of data completeness, which assumes that different methods reveal different pictures (or complementary views) of what is being researched and contributes to fuller by facilitating breadth and depth of transfer nurses' experience in relation to the quality and safety of transfer care (Denzin, 1989, Lambert and Loiselle, 2008). Shih et al. (1997) support the use of a multi-method qualitative triangulation approach in nursing research, resulting in collection of fuller data on a broader range of views and providing a foundation from which researchers can observe and understand patients' turning-point experiences from cardiac surgery recovery. Use of multiple methods can thus be used together to reveal the different aspects of the experience of the transfer nurses being studied. Furthermore, the use of multiple methods also enables a more holistic and contextual portrayal of transfer nurses' experiences, which may enrich understanding of data (Jick, 1979, Fontana, 1996, Shih, 1998, Bekhet and Zauszniewski, 2012). However, the use of multi-method data collection also has some limitations. More details of the limitations of using method triangulation in this study will be discussed in the next section.

4.5.2 The limitations of using multiple methods of data collection

The literature reveals the epistemological and methodological benefits and potential limitations of using different ways of collecting the data (Thurmond, 2001, Silverman, 2010, Bekhet and Zauszniewski, 2012, Yeasmin and Rahman, 2012), such as incompatibility matching of methods that may threaten the trustworthiness of findings and present difficulties in engaging numerical and narrative data in order to understand the phenomenon.

It is important to note that observation, semi-structured interviews, and document reviews have been chosen and studied together because of the insight they offer in considering the research question, and not because of their counterbalancing strengths and weaknesses. In order to address my research questions [(i) what is the meaning of the quality of care during inter-hospital transfer care of patients; (ii) what are the contextual factors influencing quality of care during transfer of critically ill patients to a regional hospital; and (iii) how do transfer nurses provide quality of care for critically ill patients throughout the transfer processes?], a combination of the three methods were used in the conduct of this study. Observation with relatively informal conversations and semi-structured interviews were used as the principle methods to clarify the main components to the research questions, such as “what do they think?”, “how do they do...?” and “why do they think like this?” (Morse, 1991), and transfer documents (e.g. referral letters, monitoring documents) were supplementary methods to clarify some components such as handover information, evidence of transfer management of critically ill patients, and clinical condition upon arrival at the regional hospital. I avoid claiming that one method may be better than another to uncover the core of the phenomenon, and that confirmed and convergent findings support the validity of methods used. However, the use of multiple methods of data collection in this study facilitates divergence rather than confirmation and convergence (Shih, 1998, Mays and Pope, 2000, Yeasmin and Rahman, 2012). Thus, each method of data collection was independently analysed in itself (Denzin, 1978, Casey and Murphy, 2009) (see more detail in section 5.4.2 in Chapter Five).

Also, care needs to be taken when combining methods. Silverman (2014) suggests that a researcher should not confuse theoretical perspectives underpinning the study. Mason (1996) gives the example of the mistaken attempt to combine interview data on individual experiences with discourse analysis of particular texts. The error arose because discourse analysis treats all accounts as being socially constructed and, not as providing a necessarily accurate version of reality. How to think strategically about integration different methods needs to be considered. To facilitate thinking about this issue, Mason (1996, pp. 79-80) suggests a series of questions as follows:

What can each method yield in relation to my research question? Which parts of the puzzle do they help me to address? ... How do the different methods feed into each other? How do they integrate logistically as well as intellectually? ... How will I derive data from each method – literally, interpretively or reflexively?... Can I feasibly do everything I want to do?

Addressing these questions will prevent me from making assumptions, and not making implications when cross-checking during analysis from different methods. Although, I do not claim that using triangulation may be conducted as a form of validity; I realise that the data may be similar, different or complementary. Also, triangulation is useful for understanding the different pictures of the phenomenon. Findings from this study are integrated in order to account for diverse patterns of experience of transfer nurses (Simons, 2010). In addition, similar or complementary findings increase the trust that some of the concepts is correct, and points of disagreement can be re-examined (Lambert and Loiselle, 2008).

4.5.3 The study settings

The purpose of the research study is to investigate the quality and safe transfer care of critically ill patients from the experience of transfer nurses accompanying them from rural community hospitals to a tertiary hospital in Thailand. As the research aim notes, the study settings were located within two hospital contexts: (1) in one regional hospital and (2) in three community hospitals (Table 4). With regard to strategic considerations, the study sites were selected for purposive sampling. This is because purposive sampling has a role in the study of the social process of rural community and tertiary regional hospitals rather than of individual nurses. Also, the selection of settings was

considered optimal to observe and investigate the phenomenon of interest in order to challenge and to refine the phenomenon of the quality and safe transfer care (Silverman, 2014). Data collection lasted for a total of twenty weeks of fieldwork, from October 2011 to February 2012.

Table 4: Explaining the setting, methods of data collection and number of participants in the study

Fieldwork/ Time period	Setting and Criteria	Methods of data collection	Number of cases
REG hospital Five weeks	A tertiary regional hospital	- Observations of handover meeting from COM1, COM2, COM3 to REG hospital - Semi-structured interviews - Transfer document reviews	23 4 23
	Community hospitals		
COM1 hospital Five weeks	1. Statistics show the highest number of critically ill patients who are transferred from all community hospitals to REG hospital	- Observation throughout the transfer process * - Semi-structured interviews - Transfer document reviews	5 4 5
COM2 hospital Five weeks	2. The evidence shows good quality of care during inter-hospital transfer from all community hospital to REG hospital	- Observation throughout the transfer process * - Semi-structured interview - Transfer document reviews	4 4 4
COM3 hospital Five weeks	3. This community hospital is furthest away from the tertiary hospital. Also, the evidence shows the highest number of problems encountered when transferring critical patients	- Observation throughout the transfer process * - Semi-structured interview - Transfer document reviews	5 4 5
Total			90

Note: Observation throughout the transfer process (*) refers to the observation of the delivery of care for critically ill patients from transfer nurses since the pre-transfer phrase at a community hospital, the patient was transferred to the regional hospital by ambulance, and up until the patient's arrival at the tertiary regional hospital.

In consideration of ethical concerns regarding the privacy and confidentiality of participants, codes were used instead of the real names of the province, the regional hospital and the three community hospitals where data was collected. These were as

follows: (1) PRO province refers to the name of a province located in the eastern part of Thailand; (2) REG hospital refers to a regional hospital in PRO province; (3) COM1 hospital, COM2 hospital and COM3 hospital refer to the three community hospitals in PRO province.

To select the hospital sites, I started with REG hospital, and then chose the three rural community hospitals (COM1, COM2 and COM3). The rationale for gathering data at REG hospital was the REG hospital's role as a tertiary referring centre covering eleven community hospitals in PRO province. It oversees two provincial hospitals in proximity to this regional hospital and REG hospital is an easily accessible referring centre for those hospitals. REG hospital provides a full range of general and specialist surgical and medical services, supported by an intensive care service and advanced cardiac care, traumatic care and cancer care facilities. Moreover, it receives many patients who are transferred from other hospitals. A survey carried out in fiscal years 2011, 2012, and 2013 showed that 36,026, 41,332 and 38,756 patients respectively were admitted from the three community hospitals in PRO province and from other provincial hospitals (HIS 2000-Client Information System, REG hospital, 2014).⁴

Next, I selected the rural community hospitals. The reason for selecting three community hospitals is to examine the process and performance of transfer care in different environments. I decided to use strategies for the selection of samples and hospital institutes that exhibit different perspectives by utilising the technique of 'maximum variation cases' in order to obtain information about the significance of various circumstances for care processes and outcomes (Flyvbjerg, 2004, Bryman, 2015). At a deeper level, it aims to see processes and outcomes across various fields, to understand how they have been affected by existing local conditions, and then to develop clearer descriptions and better explanations (Miles and Huberman, 1994). Therefore, multiple community hospital sites are most suited for exploration of meanings, processes and problems of inter-hospital transfer care in each rural

⁴ HIS 2000-Client Information System, REG hospital. (2014). Total number of referred in-patients. (Unpublished raw data).

community hospital setting. For this reason, I identified various characteristics of each community hospital for my fieldwork in order to represent multiple reality of the quality and safety characteristics of transfer nurses from community hospitals to the regional hospital.

I looked for a community hospital that was also interesting and accessible, but with dissimilar characteristics. These hospitals are embedded much more broadly in the institutional environment of the locality where the study has taken place. There are many variables associated with individual hospitals, including (i) occurrences of adverse events, (ii) journey distance to be covered, and (iii) quality of care and scope for improvement. I used the information based on the anecdotal reports about hospital transfers between REG hospital and eleven community hospitals at the time of site visits by an emergency medicine team from the Public Health Centre of PRO Province and REG hospital⁵. In selecting one of them, I noted its characteristics: (i) the highest number of critically ill patients transferred to REG hospital (COM1 hospital), (ii) the best examples of quality of care (COM2 hospital), and (iii) the longest distance from a community hospital to a regional hospital and the highest number of problems encountered when transferring critical patients (COM3 hospital). As stated above, these hospitals were chosen as they are more likely to maximise what we can learn and understand about quality of care problems and facilities during transfer of critically ill patients, and perhaps help the transferability of research findings (Bryman, 2015). In the selection of multi-site of community hospitals, although it is impossible to represent all community hospitals this way, the selected hospital settings represented a varied picture of current practice in this region. These hospitals helped illustrate some of the issues that I was seeking to explore (Casey and Houghton, 2010).

Because of different local policies and management of transfer work among the three community hospitals, I created a table (Table 5) to summarise the similarities and differences between them in order that implementation of policy and management at the

⁵ Emergency Department of REG hospital. (2010). Site visit report of inter-hospital transfer care from eleven community hospitals to the tertiary hospital, PRO Province: REG hospital (Unpublished raw data).

participating sites can be visualised. I also give details of the characteristics of the four hospitals used for my fieldwork in Appendix P. Below, I discuss the processes of soliciting authorisation from hospital administrators and research ethics committees in order to conduct this study in the four hospital settings.

Table 5: The similarities and differences in transfer management among the three community hospitals

Hospitals	Similarities	Differences
COM1 hospital	<ul style="list-style-type: none"> - A transfer rota is organised by using a nurse's day off as an overtime-working shift. - If the transfer nurse on the transfer shift is not available, the department of those patients transferred can phone to any nurse who is available to transfer the patients instead. - The policy allows nurses to work in a transfer rota exchange, or for them to give their rota shifts to other available personnel. 	<ul style="list-style-type: none"> - Each department (ED, IPD1, IPD2, MW and OPD) has responsibility for transferring patients for one week per a calendar month. - All nurses are responsible for transferring patients, including the head of nurses and the heads of departments (if available). - Each department organises one day off (three shifts) to individual nurses to transfer patients. - There is one transfer nurse allocated per shift (morning, evening and night shift) covering weekdays and weekends.
COM2 hospital		<ul style="list-style-type: none"> - Nurses from ED, IPD and MW have responsibility as personnel to transfer patients, excluding the head of nurses, the heads of department and OPD nurses. - As with the COM1 hospital, one transfer nurse is allocated per shift. However, no transfer rota is provided to the morning shift during a weekday. If patients need to be transferred, nurses from each department to which the patient has been admitted are responsible for allocating their nursing staff to transfer patients. - There is 'a volunteering nurse group,' which has an impact when there are too many given shifts from other nurses.
COM3 hospital		<ul style="list-style-type: none"> - Nurses from ED, IPD, OPD and MW have responsibility as personnel to transfer patients, excluding the head of nurses, and the heads of departments. - Two transfer nurses (R1 and R2) are allocated to transfer patients from 4pm to 8am on a weekday, and from 8am to 8am (a 24-hour shift) on the next day, on weekends and public holidays. - Same as the COM2 hospital, no transfer rota is provided to the day shift on a weekday. However, if there is a need of a second transfer nurse (R2) and no more nurses are available in their departments during the day shift, the NI nurse or the EMT-I can be assigned.

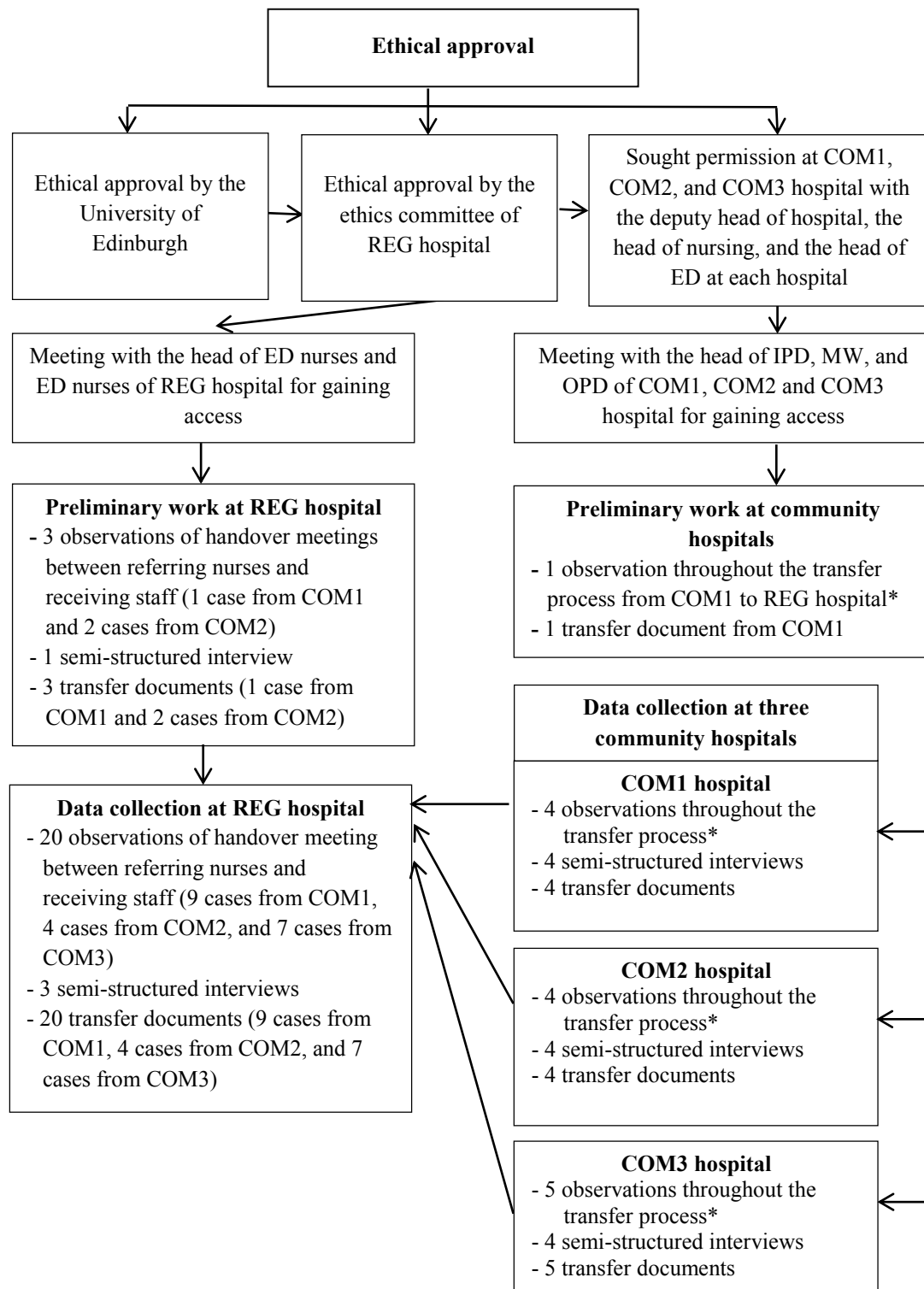
Notes: NI nurse (nosocomial infection nurse); EMT-I (emergency medical technician-intermediate)

It is important to note that critically ill patients at community hospitals who need to be transferred originated from all departments in their community hospital. Once the patients are stabilised, a nurse in charge will assign transfer personnel who are on the transfer shift to accompany the patients. Thus, critically ill patients from all community hospitals are provided with nurses who come from different specialities and have a range of years of nursing experience. This means that critically ill patients may be accompanied by nurses who do not have particular knowledge and skills related to the critical illness pathology of these patients. To illustrate, if there is ST elevation myocardial infarction (STEMI) patient needing to be transferred to a regional hospital and on that day a maternity nurse is on the transfer shift, she has to accompany the STEMI patient. Likewise, if maternity patients with complications need transfer, and on that day an inpatient department (IPD) nurse is on the transfer shift, she has to accompany the maternity patients.

4.5.4 Gaining access to study settings and research participants

Accessing the community hospital and regional hospital transfer nurses who provided testimony for this study involved approaching gatekeepers at various levels. In this section, I present the process undertaken to access the research sites and study participants in four hospital settings as shown in Figure 5.

As a starting point, ethical approval was sought from the Research Ethics Committee, School of Health in Social Science of the University of Edinburgh (2011) (Appendix B), the committee's guidelines having informed this study. The principal ethical concerns consist of protection of confidentiality, anonymity and consent, moral issues, potential physical or psychological harm, discomfort and stress, researcher/institutional conflicts of interest, and consideration of vulnerable participants.



Note: Observation throughout the transfer process (*) refers to the observation of the delivery of care for critically ill patients from the transfer nurse and/or in charge nurse in the pre-transfer phase at a community hospital, while the patient was transferred to the regional hospital by ambulance, and up until the patient's arrival at the tertiary regional hospital.

Figure 5: The process of data collection in this study

The second stage was the granting of the official document of ethical approval from the university and submission of the research proposal to the ethics committee members of each hospital in Thailand in order to negotiate permission to collect data (Appendix C). As part of this process, the objectives of the study, the research design and the fully-proposed research papers were submitted to REG hospital for ethical approval, and to the three community hospitals. However, there were no official ethics committees in any of the community hospitals at that time, so written permission to collect data (observations, semi-structured interviews and document reviews) was granted following discussion with the deputy director, the head of nursing and chief of nurses in the departments of each community hospital where the research would be conducted (Appendix E, F, and G). An official letter was also sent to the PRO Province Public Health Centre, which supervises all hospitals in PRO province, to inform them about the project on the delivery of safe care during inter-hospital transfers from these three community hospitals.

After ethical approval was sought from the REG ethics committee and all three community hospitals, the third stage – access – was negotiated via discussion explaining the study objectives with the head of ED, with the manager of the referral centre of REG hospital, and with the three head nurses at the community hospitals (COM1, COM2, and COM3). There was a consensus that the outcomes and recommendations from the study would have the potential to influence improvement in the quality of care and safety in inter-hospital transfers. Permission was granted to access the sites for the purpose of data collection.

4.5.5 Selection and recruitment of the participants and critically ill patients

The next and final meeting to obtain access and promote recruitment were held with transfer nurses in REG hospital and all three community hospitals. The referral centre manager of REG hospital, and the head of nursing and chief of ED nurses of each community hospital facilitated presentation of my study to their nursing staff – the aims of the study, the research design, and the method of data collection.

The participants received explanatory documents, including an information sheet with details of the research (Appendix H and I), an invitation to participate, and consent forms (Appendix J and K) for those to be interviewed and have observations of their practice recorded in their hospital settings. Transfer nurses were encouraged to read the information documents during their leisure time. I followed up the transfer nurses in their hospitals a few days later after they had read through the research details; all were subsequently satisfied and willing to participate in the study.

Purposive sampling strategy was used to select the participants in this study because it illustrates some key features or processes of the transfer care of critically ill patients. Purposive sampling strategy also allowed me to find participants for interview and observation based on the group of transfer nurses on which my research project focusses (Silverman, 2014). The purposive sampling and criteria were explained below.

4.5.5.1 Receiving nurses from regional (REG) hospital

The four purposive samples in this setting were to investigate the perceptions of receiving nurses in terms of what and how community nurses deliver care for critically ill patients during transfer from their hospitals to REG hospital, and how receiving nurses at the tertiary hospital view the community nurses' performance. To address this objective, four emergency nurses at REG hospital were invited to participate in semi-structured interviews. One of these had primary responsibility of supervision of the inter-hospital transfer system. The other three nurses were invited on the basis of having several years' experience as specified in Benner et al. (2009). Each nurse was required to have at least three years' experience of receiving critically ill patients transferred from community hospitals. According to the competency model in Benner et al. (2009), experience is a prerequisite to a holistic appreciation of the patient's condition and understanding of the continuing objectives of that condition. This thus provides the rationale for selecting nurses with more than three years' experience. The inclusion criteria are illustrated in the next section and participants' characteristics are shown in Table 6.

4.5.5.2 Referring nurses from community hospitals (COM1, COM2, and COM3)

Twelve referring nurses, who demonstrated features or processes relevant to the study, were selected from three community hospitals in PRO province for individual, semi-structured interviews. The head or the assistant head nurses of the ED were consulted in selecting participants for this study because they constitute the committee of the referral centre of REG hospital. They were also asked to identify one nurse with responsibility for improving the department's hospital transfers. Two additional nurses from other departments, i.e. emergency department (ED), inpatient department (IPD), maternity ward, or outpatient department (OPD), were selected by myself under the following criteria: s/he had to have at least two months' experience, and another one had to have experience of at least three-years' direct involvement in the inter-hospital transfer of critically ill patients. The rationale for two month's experience was because most of the community hospitals in Thailand have insufficient nursing staff, so it is necessary for younger staff to transport critically ill patients after only two months of work as registered nurses. This phenomenon gave me a chance to understand more about novice nurses' experiences, and also the experiences of nurses who have a variety of particular knowledge and skills that they able to bring to delivery of transfer care for critically ill patients.

In sum, the participants were eligible for inclusion only when they fulfilled the essential criteria for inclusion in the study. The recruitment criteria for the receiving and referring nurses in this study are shown below.

Inclusion

- Qualified registered nurses and/or midwives who were willing and consented to be interviewed, audio recorded and observed.
- Qualified registered nurses and/or midwives working 40 hours or more each week in their own departments.
- Qualified registered nurses and/or midwives currently working or involved in the transfer care system in their hospital.

Exclusion

- Qualified registered nurses and/or midwives unwilling to consent
- Newly graduated registered nurses and/or midwives with less than two months experience

Sixteen transfer nurses were invited to be participants, which was considered adequate for data sufficiency when there is no additional data (data saturation) to be discovered in data analysis (Fusch and Ness, 2015).

Table 6: Characteristics of participants from four hospital settings

Hospital	Pseudonym	Age (years)	Gender	Qualification	Position	Training background	Years of nursing experience
1. REG hospital	Phensri	35	Female	- B.N.S.	- ED nurse	- ACLS - Pre-hospital care	- SICU = 2 years - ED = 11 years to present
	Nattha	44	Female	- B.N.S.	- ED nurse - A manager of the transfer centre	- ACLS - Emergency medical care - Emergency medical instructor	- ED = 23 years to present
	Suthep	42	Male	- B.N.S	- ED nurse - A manager of the emergency medical service	- Emergency medical care - ACLS - Emergency medical instructor	- Paediatric ward = 8 years - ED = 12 years to present
	Wanpen	55	Female	- B.N.S - B.Ed.	- A sub-head nurse of ED	- ACLS	- OPD = 1 year - ED = 26 years
2. COM1 hospital	Kanda	26	Female	- B.N.S	- IPD nurse	- BLS and ACLS - Respirator care	- Clinical practice training for 6 months - IPD = 1 year 7 months to present
	Supaporn	33	Female	- B.N.S. - Certificate in nursing speciality in primary medical care	- ED nurse	- BLS and ACLS - Emergency medical care	- ED = 10 years to present

Hospital	Pseudonym	Age (years)	Gender	Qualification	Position	Training background	Years of nursing experience
3.COM2 hospital	Maliwan	35	Female	- B.N.S.	- MW nurse	- BLS and ACLS - Breastfeeding care - Nursing care of obstetric crisis women	- Primary care centre = 3 years - IPD and ED = 6 years - MW = 6 years
	Pranee	38	Female	- B.N.S. - Certificate in nursing speciality in primary medical care	- A head nurse of ED	- BLS and ACLS - Emergency medical care - Pre-hospital care	- IPD = 5 years - MW = 3 years - ED = 8 years to present
	Suda	25	Female	- B.N.S.	- ED nurse	- BLS and ACLS - Water life saving	- Clinical practice training for 3 months - MW = 1 year - ED = 1 year 6 months to present
	Ladda	30	Female	- B.N.S.	- ED nurse - Responsibility in transfer care	- BLS and ACLS - Emergency medical care	- ED = 7 years to present
	Chalita	26	Female	- B.N.S.	- MW nurse	- BLS and ACLS	- Clinical practice training for 3 months - MW = 2 years 9 months to present
	Thantawan	44	Female	- B.N.S. - Certificate in nursing speciality in primary medical care	- A head nurse of ED	- BLS and ACLS - Emergency medical care - Pre-hospital care	- IPD the REG hospital = 16 years - OPD = 2 years - ED = 5 years to present

Hospital	Pseudonym	Age (years)	Gender	Qualification	Position	Training background	Years of nursing experience
4. COM3 hospital	Sookjai	36	Female	- B.N.S. - Certificate in nursing, specialist in nursing management	- A head nurse of MW	- BLS and ACLS - Basic consultation and telephone counselling - drug addiction therapeutics - Breastfeeding consultation	- Primary care district hospital = 4 years - PCU at community hospital = 6 years - MW = 6 years to present
	Sukhum	32	Male	- B.N.S.	- OPD nurse	- BLS and ACLS	- IPD, MW, OPD, and ED = 4 years - OPD and ED = 5 years to present
	Niramon	40	Female	- B.N.S.	- A head nurse of ED	- BLS and ACLS - Emergency medical care - Autopsy for medical personnel - Pre-hospital care	- IPD, OPD, ED, and MW = 8 years - ED = 10 years to present
	Alan	29	Male	- B.N.S. - Certificate in nursing speciality in primary medical care	- IPD nurse	- BLS and ACLS - Basic consultation - Cardiac care	- MW, OPD, and ED = 5 years - IPD = 2 years to present

Notes: B.N.S. (Bachelor in Nursing Science); OPD (outpatient department); IPD (inpatient department); MW (maternal ward); ED (emergency department); OR (operating room or operating theatre); PCU (primary care unit); BLS (basic life support); ACLS (advanced cardiac life support); Clinical practice training (the training for a new graduate nurse in ED, MW, IPD, OPD and/or OR)


From Table 6, it can be seen that sixteen registered nurses participated in semi-structured interviews. Thirteen participants were Thai females and the other three were Thai males. All participants from the receiving nurses group work in the ED of REG hospital with an age range of 35 to 55 years. On the other hand, all participants from the referring nurse group work in various departments (e.g. EDs, IPDs, OPD, and MWs) with an age range of 25 to 55 years. The receiving nurses have working experience (between 13 and 27 years) higher than referring nurses (between 2 and 23 years). All of the receiving and referring nurses graduated with a bachelor's degree in nursing science and are trained in advanced cardiac life support (ACLS) course annually. Only three participants from the referring nurses' group who had less than three years, nursing experience reported that they worked as the transfer nurses after only two months service following clinical practice training in all departments from their community hospitals, this being because of the shortage of transfer nurses.

4.5.6 Identifying the critically ill patient

One of the main issues that arose was identification of the critically ill patient whose transfer would be observed in order to be included in this study. In the Thai health care system, the criteria to classify patients is divided into four levels based on the severity of physical illness, mobility, psychosocial problems, and clinical needs. The patients at level 1 are patients with the least severe illness and the patients on level 4 are patients with the most serious illness (see Appendix L). Patients are put into corresponding classification categories by the nurse-in-charge and her/his team. The patient's personal details, diagnosis and classification, and the dates of admission and discharge, were recorded in an electronic database and/or admission book. The patient classification systems in Thailand and the UK are similar in that they both employ categorisation across four levels, except the Thai system numbers these from 1 to 4 and the UK system numbers them from 0 to 3. These classifications are used to allocate levels of care to patients according to their clinical care needs; they disregard location or the prevailing nurse-to-patient ratio (Intensive Care Society, 2009). The patients on the lowest level are patients with the least severe illness and the patients on the highest level are those with the most serious illnesses with complicated conditions requiring support for multi-organ failure needing transfer to a regional hospital for intensive and specialised care and treatment. Patients categorised

as ‘levels 3 and 4’ in the Thai system equate to category ‘levels 2 and 3’ respectively in the UK system and were identified as critically ill patient cases for this study (Table 7).

Table 7: Comparison of patient classification between the Thai system and the British system

Patient Classification System		Severity of Illness
Thailand	Great Britain	
Level 4	Level 3	<div style="text-align: center;">  The most serious illness The least severe illness </div>
Level 3	Level 2	
Level 2	Level 1	
Level 1	Level 0	

4.6 Summary

In this chapter, I have drawn attention to the need for qualitative enquiry in the area of the quality of care and patient safety during inter-hospital transfers in Thailand. I explained constructivist ontological and epistemological stances and the symbolic interaction that is the theoretical framework perspective underpinning this study. This was followed by a description of the focused ethnographic study in this research. Consequently, I outlined the use of qualitative multiple data collection techniques (observations, semi-structured interviews, and transfer document reviews) and the rationale and account of the way in which methodology is used, and how to overcome the limitations of using a multi-method approach in this study. I also provided detailed discussion of how I selected my hospital settings, including participant recruitment. The fieldwork took twenty weeks in total using four hospitals. Three community hospitals with varied characteristics, and one regional hospital, will reveal how transfer nurses’ delivery of care to ensure the quality and patient safety for critically ill patients during inter-hospital transfers, operates in different contexts.

In the next chapter, the study processes, including data collection, consideration of ethical issues, trustworthiness, data analysis and reflexivity within the research process will be presented.

Chapter Five: The Study Processes and Data Analysis

5.1 Introduction

In Chapter Four I described constructivism and symbolic interactionism as philosophical assumptions behind the approach underpinning this study. Also, the methodology and justification for my choice of the focused ethnography of hospitals were given. This chapter concerns the practical application of the ethnographic approach underpinning the research. First, I explain how the qualitative methods of data collection in two main settings were conducted. This includes the preliminary work to refine the observation and interview guide in this study. Next, I detail key ethical challenges that were encountered when conducting the ethnographic research. I then illustrate the step-by-step process adopted in the data management and data analysis to demonstrate the experiences of transfer nurses while providing care during inter-hospital transfer of critically ill patients. By using symbolic interactionism, it is possible to illustrate the process of data analysis within the ethnographic study. I draw out how meaning is created within the context of transfer nurses' work, and how intended and unintended behavioural patterns of transfer nurses reflect inter-hospital transfer care provided by transfer nurses. I evaluate the rigour and trustworthiness of ethnographic data in this study to ensure the quality of this research. Lastly, I discuss how my reflexivity is embedded within and during this research.

5.2 Process of qualitative data collection

In this section, I provide an account of the data collection process and challenges encountered, and how they were addressed. The focused ethnography, including qualitative multi-method of data collection – observation, digitally recorded interviews, and transfer document reviews – was conducted in four hospitals. Five weeks of data collection were devoted to each hospital site. Five days within each week were devoted to data collection. Within these five days, I spent time when there were no critically ill patients being transferred to REG hospital for my data analysis. After ethical approval in all hospital settings as shown in section 4.5.4 (Chapter Four), I began

data collection at the ED of REG hospital in October 2011. I then collected data at each of the three community hospitals in the following weeks. Ninety data sets were collected.

5.2.1 Preliminary work

Following approval by the Ethics Committee of REG hospital and discussions with the deputy director, the head of nursing and chief of nurses in the departments of the three community hospitals (as discussed in section 4.5.4 in Chapter Four), I conducted preliminary work in advance of the main study consisting of observations of three patient handovers at the ED of the REG hospital. This initial work included one semi-structured interview in REG hospital, and one observation in COM1 hospital. This preliminary work enabled reflection on the data collection plans (what works, what needs adjustment) and on the robustness of boundaries of the phenomenon studied. This exercise demonstrated some of the interviewing issues considered here (i.e. how to develop relevant lines of questioning, the amount of time needed to complete the interviews, and management of emotional distress of interviewees during the interviews). Identification of these items during the preliminary work helped refinement and development of the main study discussed below. It also allowed an opportunity for reflection and development of a more precise topic guide (Appendix M), wording of questions such as probing questions, and the generation of meaningful data. This experience also helped testing of the observation procedures (Rhodes et al., 2012) (Appendix N) and revealed what is needed in order to address the research questions. This process helps ensure dependability (reliability) of data observation (Angrosino, 2012).

Experience gained through the preliminary work was valuable for identifying adjustments that could be applied to both observational tools and the interview questions. For the initial observations of the handover process in the ED of REG hospital, a digital tape-recorder was used to record verbal exchanges between the referring nurses and the receiving nurse, although background noise interference undermined the effectiveness of this. This was resolved by taking supplementary notes during the handover process and by reading the content of the transfer letter while the

referring nurses completed the transfer of the patient to the ED staff. The ED staff assisted by photocopying the transfer letter for me after the physician and nurse in-charge had completed their jobs. I immediately completed all data details to ensure that I had recorded verbal exchanges as accurately as possible. Angrosino (2012, p. 41) argues that “nothing conveys the sense of ‘being there’ more than the actual words of the participants.” The methods I used helped me to obtain data that was accurate and complete at the time. I adopted this approach in the main study to enhance the rigour of data collection.

For the initial semi-structured interviews with a receiving nurse at ED of REG hospital, I began by asking, “What is quality of care for inter-hospital transfer for critically ill patients from your point of view?” I felt that the participant viewed this question as a test of her knowledge, and she took time to formulate her answer. She also asked me, after the interview, “Was my answer right or wrong; was it complete?” This issue persuaded me to change the sequence of the interview questions and begin with, “What are the current processes in your department when critically ill patients need to transfer to a regional hospital? This question enabled the interview to be more relaxed. It made interviews more like ordinary conversations, not just asking for information (Appendix M).

The preliminary work also demonstrated justification for using a series of community hospitals. There were benefits to be gained by initially collecting data at the REG hospital where I know the staff personally. This helped me when gathering data at the most-distant community hospital where many challenges have to be confronted during transfer care.

Staying at COM1 hospital enabled me to adapt my research plan. There I observed and interviewed referring nurses who had transferred critically ill patients to REG hospital. Awareness of how referring nurses provide care in the ambulance played a significant role in my motivation and prompted adjustments to observation during ambulance transfer management that were then applied to every case. Upon reflection, observing transfer management in the ambulance was the right decision because observation in this process revealed significant information, such as particular barriers

influencing transfer management in the ambulances, issues of transfer recording documents, and familiarisation with the role performed by transfer nurses in the ambulance. Additionally, study of inter-hospital transfer care entailed complete processes. From the literature review (Morton and Fontaine, 2009, Manser et al., 2013) and preliminary work, I grouped the transfer processes into three main phases: (i) the pre-transfer phase (the stage of pre-stabilisation, cooperation in the transfer and handover process between referring staff), (ii) out-of-hospital phase (transfer management in the ambulance), and (iii) arrival at the regional hospital (handover meeting). This enabled understanding of how transfer nurses experienced difficulties surrounding transfer at different stages, which I could appreciate as an ‘insider’ nursing professional.

5.2.2 Data collection methods in two main locations of fieldwork

In this section, I provide a clear rationale of the choice of individual data collection methods, problems encountered and how they were addressed in order to confirm that the methods were used correctly and their ability to address the research questions. As noted in Chapter Three, an ethnographic approach is adopted for this study. Multi-method of data collection also was used to investigate transfer nurses’ experiences and accounts in the context in this study. I undertook data collection at REG, COM1, COM2, and COM3 hospitals between October 2011 and February 2012 for twenty weeks. This part of the study covered a five-week period in each hospital. Data collected consisted of 16 semi-structured interviews, 14 observations of transfer care for critically ill patients from three community hospitals to a tertiary regional hospital, 23 subsequent handovers, and a review of transfer documents (90 data sets in total) (see Table 4 on page 68). Individual data were stored separately in a note book, a transfer document folder and computer software.

5.2.2.1 Observation

Observation as a principle method of data collection is used in this study as a key component of my methodology. This kind of observation refers to methods of generating data that the researcher immerse herself or himself in a research setting

(Mason, 2002). These observations allow the generation of data on social interaction in specific contexts as transfer care takes place in the community and regional hospital settings, as well as the way transfer nurses interpret the quality of transfer care. Likewise, my epistemological position suggests that the multiple reality, or knowledge of the social world, can be generated by observing or participating in real life and interactive situations of transfer nurses (Mason, 2002). Furthermore, the observation method gathers first-hand information about transfer care processes in a naturally occurring, real context (Silverman, 2010). Observations were mainly conducted for generating data for immersion in community hospital and a regional hospital settings, and to systematically explore behaviour, interactions, relationships and actions of transfer nurses working in those settings throughout the transfer processes in order to understand what was occurring and how (Mason, 2002, Thomas, 2016).

As part of the main aim of this study, it is necessary to make observations of transfer care of critically ill patients from departure from COM1, COM2, or COM3 hospitals until the patients' arrival at REG hospital (see Figure 5 on page 74). From preliminary work at REG hospital, interpersonal conflict related to patient handover between the receiving and referring nurses arose as the first problem. To investigate this problem, I decided to make observation at REG hospital in order to investigate the quality of the handover process within the receiving team of the ED, and between the referring nurses from three specific community hospitals and the receiving staff of the ED of REG hospital. This meant that I immersed myself in a research setting. However, I might involve myself or interact in the processes of inter-hospital transfer care. How much I became involved in the transfer care processes depended on patient safety as the first priority and will be related in more detail in section 5.6.

At REG hospital, my aim was to observe everything related to my research objectives in the maximum detail possible. I tried to observe many details of the interaction between the referring nurse and receiving staff during handover meeting. These observations were to identify the type of context of interactions related to the handover and the care and their influence on the quality and methods of delivery of safe transfer care of critically ill patients. I also posed questions to the referring nurses from the three specific community hospitals, following their handover of patients to REG hospital, to seek clarity

surrounding handover issues. In the ED, I was usually able to occupy a location from which I could clearly observe staff activities. From this vantage point, I could listen to verbal handovers between the nurse-in-charge of the referral centre and nurse-in-charge and other staff of the ED. Upon arrival of patients at the ED, observation was conducted at the referring nurses' arrival point at the department. Here the patients were transferred from the ambulance by stretcher to the screening zone or critical zone.

In addition to REG hospital, observation was undertaken from each of the three community hospitals (COM1, COM2, and COM3). The community hospitals were studied through observation in order to investigate care provided and contextual factors affecting the transfer care by the referring nurses. The process of inter-hospital transfer care of patients from the EDs/IPDs/MWs of COM1, COM2, and COM3 hospitals were observed from departure through to their arrival at REG hospital, including travelling with the patients in the ambulances. The way I observed was informed by theoretical literature and practical problems. The observations from COM1 to REG, COM2 to REG and COM3 to REG focused on four main processes of transfer care: (i) period of care prior to transfer, including the handover process between the charge nurse or physician and the referring nurses, and between the charge nurse or physician and a dispatch nurse of the transfer centre of REG hospital; (ii) the transfer care management by the referring nurses in the ambulance until the critically ill patient arrived at REG hospital, and (iii) the handover meeting between the referring nurses of the community hospitals and the receiving staff of REG hospital. Actual observation during these periods helped me to evaluate how referring nurses provide care during inter-hospital transfer.

Observations, following the observation guide (Appendix N), in the four hospital settings were not conducted by having a constant presence during a shift. The observation took place for two days from 8am to 5pm and from 10am to 8pm, and over one night from 10pm to 1am and 5am to 8am, with extra on-call time; during these times there was co-operation in the transfer of critically ill patients from a specific community hospital to the referral hospital. The actual observation time ranged from six to ten hours per day. This was aided by my institute and community hospitals' provision of accommodation, which facilitated speedy attendance to collect data, and

rapid notification of cases by the nurses in-charge at the referral centre and referring hospital.

5.2.2.2 Semi-structured interviews

Semi-structured interviews are the other core method used in this study, which is based on the proposition that multiple realities and knowledge of the phenomena under examination are contextual, situational and interactional. This required me to take a distinctive approach to uncovering what I really wanted to know about the ‘what’ and ‘how’ of the quality and safety of transfer care in each interview. Also, my epistemological perspective suggests that a legitimate way to generate data on my ontological perspective is through being interactive, talking and listening to participants and gaining access to transfer nurses’ accounts and articulations (Mason, 2002). Therefore, the interviews were important because of this method’s suitability for exploring the meanings that underpinned the transfer nurses’ experiences and accounts. Interviews access directly what transfer nurses think about their actions and activities, and so they examine what actually happens in transfer nurses’ lives in relation to quality and safe care during inter-hospital transfers. Furthermore, my interest in this phenomenon is rather complex and may not always be clearly formulated in my observations, for example, consideration of belief in responsibility and accountability of care to keep patient safe, and the insecurity experienced by transfer nurses. The interviews helped me elicit descriptions of these meanings.

Most of the interview questions I asked followed the modified semi-structured interview guide (see Appendix M). Interviews were also guided by specific questions that arose during the observations, which were significant for elaborating on and clarifying specific decisions relevant to each observation (Atkinson and Hammersley, 2007). Therefore, combination of observations and semi-structured interviews were characteristic of an emic approach - I became part of the culture I study. As Atkinson and Hammersley (1994, p. 249) note, “observation is not a particular research technique but a mode of being-in-the-world characteristic of researchers”. A focused ethnographic approach demands complete commitment to the task of understanding. Speziale and Carpenter (2007) suggest that the way researchers can begin to access the

emic view is by interviewing group members, observing their behaviour, and collecting cultural artefacts.

Interviewing in all four hospitals was conducted in quiet locations that provided privacy for the interviewees. During the interviews, I tried to encourage the interviewees to expand on their answers and to clarify points that carried ambiguity. I often expanded the discussion by asking, “Please tell me more about that.” On a number of occasions I required clarification of statements and each interviewee was asked to respond to points of issue until data sufficiency was achieved. When participants felt they had fully described their experiences, the interviews were concluded and the participants were thanked for their time.

The interviews lasted for 60 to 120 minutes. Duration varied but was influenced by the trust and rapport established during the fieldwork. Establishing rapport and trust during fieldwork was critical for encouraging the free flow of information to access authentic data. For example, I offered help in clinical practice during busy periods (more details discussed in section 5.6.2). I also assured the interviewees of privacy, confidentiality, and anonymity, including avoidance of the use of language or behaviour that might appear to judge the transfer nurses’ practice (more details stated in section 5.3.2).

5.2.2.3 Field notes

Field notes consist primarily of data gathered from observation and interviews. They show the first analyses during the data collection. They also help acknowledge the relationships between myself as a researcher and the participants (Denzin and Lincoln, 2008, Fetterman, 2010). Wolfinger (2002) and Angrosino (2012) recommend field note-taking during observation in order to record the researcher’s interpretations and personal experiences, and to capture the participants’ body language and visual responses as this enriches data analysis.

I gave much consideration to recording observational data. These were detailed and accurate descriptions of what I saw and heard during the inter-hospital transfer processes. I made notes of most of the events and activities occurring during the

transfer processes and strived to capture most of the issues that related to the research questions. Non-verbal communication (body language) and direct verbatim quotations of verbal statements from transfer nurses and other medical personnel made in the transfer process, and informal conversations I had with them, were included whenever possible. These observations provided information which was important in helping me understand the context and feelings which was necessary in interpreting the content of the dialogue. Moreover, description of the physical environment of each hospital setting, including drawings and/or photographs of the settings in which I was participating and learning, was made (Bogdan and Biklen, 1982).

The ideal way of taking notes would be to make these during actual observation. Considering the social characteristics of this research enquiry, this was not always possible (Atkinson and Hammersley, 2007), such as while the transfer nurse was providing care in the ambulance, an environment which made note taking difficult. In these cases, I used the transfer letter, combined with memorising of activities and verbal statements of the transfer nurses. I then made notes immediately after the observations were completed for each hospital transfer and/or handover meeting to prevent data being forgotten. Similarly, I did not take notes during interview sessions because I found this distracting to face-to-face communication. Field notes were taken after each interview and these were continuously archived throughout the data-gathering process.

After completion of each set of notes, I put my observation comments and post-it notes at the edge of the page of my descriptive field notes. Although many researchers recommend using reflexivity diaries to complement the researcher's personal account of what they are learning (Bogdan and Biklen, 1982, Whitehead, 2005), I did not find that suited my personal approach. With field notes, I could identify and understand the relevance of transfer nurses' thoughts, behaviour and theme emphasis. It also helped engagement with my own perceptions and understandings, and reflected my personal account of what I was learning in the field, how I think, where my ideas came from. The comments I made included my thoughts, feelings, problems encountered, impressions, connections and questions about what I was learning in order to make sense of meanings from the participants (Bogdan and Biklen, 1982). This included questioning and commenting on what I thought might have been meant by the

participant, based on what the participant said in a particular context; what information was obtained from the notes; who was informing me; where was this happening; what meanings were intended by participants; why did they respond in that way; and how did they construct their ideas and feelings? I used observer comment with descriptive field notes in an attempt to capture all the details that contribute to the telling of a story (Bogdan and Biklen, 1982).

Below is an example of two field notes taken. First, they focus on language and behaviour at handover meetings between receiving nurses of REG hospital and a referring nurse from COM3 hospital:

Field notes	Observer comment
<i>During data collection in the handover process between the receiving nurses and the referring nurses, this was the third case I found where there was no communication between the referring and receiving staff, particularly when transferred patients were not intubated and stable.</i>	It seems that transfer nurses rely only on patient information in the transfer letter. The transfer letter is a key instrument during the handover meeting between referring and receiving staff. The question is why both referring and receiving nurses have this communication behaviour during the handover process?
<i>When the referring nurse came to ED, she stood next to the patient trolley awaiting ED staff to receive her patient. There were two ED nurses taking care of their patients at the green zone and they looked up at the referring nurse without any questions. When one ED nurse finished inserting IV fluid in her patient, she walked over to receive the arriving patient. The referring nurse then gave the transfer letter to the ED nurse, and the referring nurse let the ED nurse read through the transfer letter. There were no questions between them and the handover process came to a conclusion. It took around 30 seconds. Similar to two previous cases, there were no questions from the receiving staff, and the handover process was conducted in silence.</i>	Is there a lack of communication skills among transfer nurses, or this is a kind of non-verbal handover? Is this a sufficiently effective way to transfer continuity of care between referring and receiving staff?
<i>The preliminary answer I got from a receiving nurse is "We do not ask the referring nurses questions because often they read the patient information from the transfer letter to us. When we ask additional questions, the referring nurse could not answer. So, we decided to read the transfer letter by ourselves." On the other hand, a referring nurse states that "We had already handed over patient information before we transfer the patient; the receiving staff should know patient information before the handover." [Field note pp.39-41]</i>	This is not clear about effectiveness of handover. This issue needs to be explored. These expressions show an issue of inter-professional relationships (conflicts) between receiving and referring nurses.

Second, it is an example of a field note from observation data that provides evidence of how transfer nurses provide quality and safety for a critically ill patient in the ambulance:

Two nurses (R1 and R2), who were not in a transfer rota, were phoned on a Saturday at 10.05pm to transfer a 32-year-old, female patient with a severe pre-eclampsia with gestational age (GA) 22+ weeks (BP 230/130 mmHg). The patient was on 50%MgSO4 diluted IV drip 100 cc/hr. (no infusion pump) and oxygen cannula 3 LPM. During the transit, she became restless as she was in discomfort due to difficulty in breathing and stomach pain. During the transfer, both nurses undertook close monitoring and observation of the patient's symptoms, checked vital signs, and consulted the physician by phone about the patient's symptoms because of increasingly high blood pressure. Also, they tried to speak with the patient to try to help her to relax. During observation, I noticed that R2 touched the patient's wrist and held her hand most of the time during transportation. After the accompanying nurses handed the patient over to the maternity nurses at the maternity department at the regional hospital, I asked R2:

BE: "Why did you touch her wrist and hold the patient's hand most of the time during the transfer?"

R2: "The patient had severe high blood pressure in pregnancy and we did not have an EKG monitor. So, my touching and my holding on the patient's hand helped me to detect pulse rates and rhythm and it also helped me to secure the patient's hands from possible pulling of the IV fluid line and oxygen cannula line during restlessness (The patient tried to sit up and lie down, and turn to left and right positions many times throughout the journey)." [Field note pp.59-60.COM1; a transfer letter Case5.COM1]

From these two examples, field notes of observations provide essential information about the issues being analysed. Important behaviour or activities of transfer care arise through observing, interacting with, and listening to the subjects under study (Mason, 2002, Silverman, 2010). As Green and Thorogood (2009, p. 148) comment, "[O]bservation methods are often cited as the gold standard of qualitative methods, given that they provide direct access to what people do, as well as what they say they do."

5.2.2.4 Transfer documents

Transfer documents were used in order to provide additional support in contextualising the information obtained from the observations and interviews (Stake, 1995). The documents I made use of can be separated into two main parts. Firstly, transfer care documents (e.g. an official transfer letter and a transfer-recording document during

transfer) were used in order to examine the handover throughout the transfer care processes, and transfer monitoring and recording in the ambulance. These documents act as ‘containers’ for content, holding words, information, instructions, and illustrating how notes are written up by medical and nursing professionals. Prior (2010, p. 426) asserts that, “medical files and notes are of special interest because they commonly serve to define the human beings and pathologies in a specific and particular way.” In this regard, transfer care documents gave useful supplementary data in investigating how transfer nurses provide care during the inter-hospital transfer processes.

Secondly, organisational documents related to transfer care (e.g. local policy on the hospital transfer process, guidelines for transfer care, transfer rotas, informal records of incidents/adverse events during transfer) were used to help to contextualise my understanding of each hospital in which the transfer nurses work. Therefore, these documents offer additional information that helped my appreciation of an organisational environment or context in relation to the quality and safe transfer care within community and regional hospital settings. Also, they can be key repositories for these hospital settings.

To facilitate document reviews, these documents were photocopied, with permission, at the department after the physicians and nurses had completed their work. To satisfy ethical considerations surrounding patient anonymity and confidentiality, names and addresses were redacted from these copy documents. Patient names were replaced by code names.

5.3 Ethical considerations in practice

Apart from adhering to normal ethical approval procedures where researchers abide by formal regulatory systems guided by an institutionally-based research facility (Guillemin and Gillam, 2004, Warr et al., 2016), there are ethical issues that arise in the process of conducting research in ‘real’ settings that are articulated in professional codes of ethics or conduct (Hart and Crawford-Wright, 1999, Guillemin and Gillam, 2004, Warr et al., 2016). These considerations will be discussed in this section.

5.3.1 Obtaining participants' informed consent for study participation

When applying for ethical approval, a detailed document outlining my particular ethical concerns, and potential means by which they would be addressed, was drawn up. Apart from the rationale of respecting and protecting the dignity, rights, and welfare of the participants, conducting research with ethical mindfulness can also help create a trustworthy relationship between the participants and the researcher. This includes providing the participants with an honest and informative document explaining the project and its objectives (Haverkamp, 2005) (Appendix H and I). Informed consents were used for interviews with both receiving and referring nurses (Appendix J and K).

For the semi-structured interviews, the purpose of the study, its conduct and how testimony would be used, was explained verbally before each interview. A written information sheet was also provided. I explained that all information provided was confidential. Testimony used in the study would be presented so as to maintain anonymity and so that individual participants could not be identified. Following Council for International Organizations of Medical Sciences (CIOMS) (2016) guidelines, participation was entirely voluntary and arranged so that it would not affect respondents' work. If the participants agreed to take part, they were free to withdraw from the study at any time and without giving a reason. On this basis, if the participants decided to take part, they were given the information sheet to retain, and they were asked to sign a consent form. The signing of the consent form confirmed that the participants understood and agreed to the terms of the study (Dixon-Woods and Bosk, 2011).

In addition to observation during inter-hospital transfer care, compiling of transfer documents was conducted within an ethos of privacy and confidentiality. Also, the phenomena studied relates to, or implicates, medical personnel (physicians, ED nurses and transfer nurses). However, the research ethics committees of REG hospital and the community hospitals approved this research protocol. After the approval, I met with nurses who were involved in the inter-hospital transfer in ED of REG hospital and each community hospital as illustrated in section 4.5.4 of Chapter Four. Therefore, consent wavers from transfer nurses were accepted (Brody, 1997, Rebers et al., 2016).

All hospitals gave the researcher permission to access and photocopy transfer letters or other documents. However, Mason (2002) notes that researchers might feel that the person or organisation giving researchers permission to use a set of documents do not actually have the moral authority to grant such use. Therefore, patients' names, hospital number (H.N.), address and other identifiable data were blacked out.

5.3.2 Maintaining privacy, confidentiality and anonymity

Every effort was made to ensure privacy, confidentiality, and anonymity of participants from the initial fieldwork to the final thesis (Dixon-Woods and Bosk, 2011). For example, interviewing and digital recording were conducted in a quiet location that provided privacy to the interviewees. Participants were also assured that raw data and digitally recorded data was managed only by myself and stored securely in a locked cabinet, and that copies were only stored on a computer with password protection, adequate anti-virus controls, a firewall, and both scheduled and automatic backups to protect against data loss or theft (British Sociological Association, 2002).

Additionally, the individual participants, the four hospital sites, and their province of location were anonymised. Details were removed and were replaced with pseudonyms or coded names in the transcripts and in the final thesis or subsequent publications to protect identity (Corti et al., 2000). The confidentiality measures included the translation of the first four transcripts from Thai into English by a professional translator. I used coded names in each transcription. To further protect the confidentiality of these participants, the translator gave a guarantee that she would not disclose information from her translation work, and would not discuss the issues arising from any interview with others in ways that might identify an individual participant or hospital (Wiles et al., 2006). Only transcripts that were anonymous were viewed by other personnel who were actively involved with this research project; these were my supervisors and examiners, and additionally, the professional translator (British Sociological Association, 2002, Wiles et al., 2006).

5.3.3 Managing risk and emotional distress

Through the use of semi-structured interviews, the interviewees were asked to talk about their experiences of inter-hospital transfer care. It was appreciated that they might have had concerns about sharing detailed accounts, and this may have inhibited them from talking in an open way. If this were so, the depth and authenticity of the information they shared may have been compromised (British Psychological Society, 2010, p. 13):

Risk can be defined as the potential physical or psychological harm, discomfort or stress to human participants that a research project may generate. ...These include risks to the participant's personal social status, privacy, personal values and beliefs, personal relationships, as well as the adverse effects of the disclosure of illegal, sexual or deviant behaviour.

To address this concern, participants involved in interviews and observation were clearly informed, both verbally and in writing, about the confidentiality and anonymity of their identity throughout each stage of the data collection. For example, it was anticipated that the participants might worry about the risk of exposing their identity and their nursing practice. They might feel fear of being judged or criticised when they shared experiences of incidents, or adverse events that occurred when with their transfer patients. To deal with this issue, at the beginning of each interview or observation, I informed the participants:

I am not going to evaluate or judge your practice. I would like to generate rich stories about inter-hospital transfer care and this involves talking about successes and failures in your experiences of transfer care. Information from you is useful for the transfer care system in Thailand, and I hope you will be as open with me as possible about your experiences of transfer care without fear of judgment or criticism.

I also informed the participants that any stories they told me about transfer care would be completely anonymised and would not be traceable back to them. This included when I dealt with unprofessional practice that endangered patients when conducting observation (e.g. no verbal handover from referring nurses) or when I did intervene in some cases to prevent the patient being harmed as stated in section 5.6.2.

There was concern that participants might experience distress by recounting certain past experiences, such as in instances where critically ill patients had been in life threatening situations. This was particularly anticipated of participants who had experienced sudden deterioration or the death of transfer patients. These incidents may place participants in a vulnerable situation when questions were asked to elicit specific data. Given the intensity of the interaction between participants and the researcher, the researcher may also be placed in a vulnerable situation (Speziale and Carpenter, 2007). As Robley (1995, p. 48) has observed:

Subjectivity and collaboration makes the researcher vulnerable. Emotionally immersed in the lived experience of others, continually sensitive to the potentially injurious nature of language, and experiencing the rights of passage as an interviewer/observer - all require an inner strength that can be enhanced by self-care.

To ensure the participants' emotional wellbeing, they were made aware of their right to decline discussion of items about which they felt uncomfortable. One of the participants from COM3 hospital became distressed while recalling the death of his patient's child when the ambulance crashed. Experience gained from having worked in acute and critical care units enabled me to maintain rapport and to handle an emotionally charged topic with sensitivity. This included pausing the interview, listening to the participant empathetically, and responding in a supportive manner. As guided by Hart and Crawford-Wright (1999), while responding to the participants empathetically, I had to remain focused on the research task without deviating from the data collecting objective and reverting to my other identity as a nurse. However, it was necessary to allow time for feedback and discussion of participants' feelings and to offer a consultation with a mental health nurse or a doctor in REG hospital (Speziale and Carpenter, 2007). However, no participant needed additional help or counselling.

5.3.4 Offering reimbursement and compensation

The question of whether recompense, such as a fee, should be offered to participants was considered (Tishler and Bartholomae, 2002, Grant and Sugarman, 2004, Head, 2009). Several researchers have argued in favour of payments to participants. For instance, Grant and Sugarman (2004, p.732) argue that "if the research meets the usual

ethical criteria for human subjects research, the introduction of incentives will generally be benign.” The main ethical concern about offering payments to participants is that this may encourage people to take part in research without properly considering the implications. This issue compromises the key ethic of voluntary informed consent (Beckford and Broome, 2007). As ‘free of coercion’ and ‘undue influence’ are the principle elements of informed consent, the major concern about offering payment is that people might participate only because there is a financial incentive (Beckford and Broome, 2007, Klitzman, 2013). Similarly, the ethical guidelines from CIOMS (2016) support the idea that participants should not be paid for making a contribution to the social good of research, except in the form of direct reimbursement of expenses (e.g. transportation costs).

For this research, interviewees other than senior staff were offered a gift. To ensure that this would not interfere with the principle of freely informed consent, I presented the gift at the end of the interview, with the clear message that this was for recognition of the *time* spent contributing to the study, and not for what they had *said*. This gesture conformed with sentiments that participants should be appropriately compensated for the time spent and other inconveniences resulting from study participation (CIOMS, 2016).

The research did not involve any risk of harm to the participants other than that which they would face in their normal duties, and there was no dependent relationship between myself as the researcher and the interviewees. It was therefore considered that giving a gift to the interviewees was ethically appropriate to express appreciation of the interviewees’ time and effort. The interviews were conducted in my office near the ED of REG hospital (around five minutes walking time) or in a quiet area of OPD, or in a room at the community hospitals, none of which entailed travel expenses for the interviewees.

5.4 Data analysis

Moving directly into analysis as a result of an active and on-going process of inductive reasoning, it is important to outline the ways in which data was used and managed,

and how adjustments might have been made to create conceptual frameworks. The step-by-step procedures that were adopted in the analysis of the transcribed data, observation data and transfer documents are therefore described.

5.4.1 Data management and rigour in translation

Ensuring the rigour of the translations, in advance of data analysis, summarising of data management and translation procedure developed by Temple (1997) and Chen and Boore (2010) was adopted for this study (Figure 6). Parts of the data were translated for supervisors, while all data were analyzed in Thai language and the results were presented in English in this study. The programme NVivo 10, computer assisted qualitative data analysis software, was used to manage my ninety data sets, to facilitate data linking, and to store all documents associated with the research (Miles and Huberman, 1994, Bazeley and Kackson, 2013). There were four stages of data translation.

The first stage consisted of observation notes, semi-structured interviews and transfer documents carried out in Thai. The process began with the researcher transcribing all data recordings verbatim in Thai. For the semi-structured interviews, I listened to each digital recording at least three times. The first two listenings were to transcribe the recordings verbatim, and a third listening was to refine the transcripts in order to ensure that all the information had been accurately transcribed. Understanding my own transcribing and listening was useful in that it helped closer identification with the interviewee's message while reading the transcripts. This aided subsequent analysis to remain grounded in the participant's account.

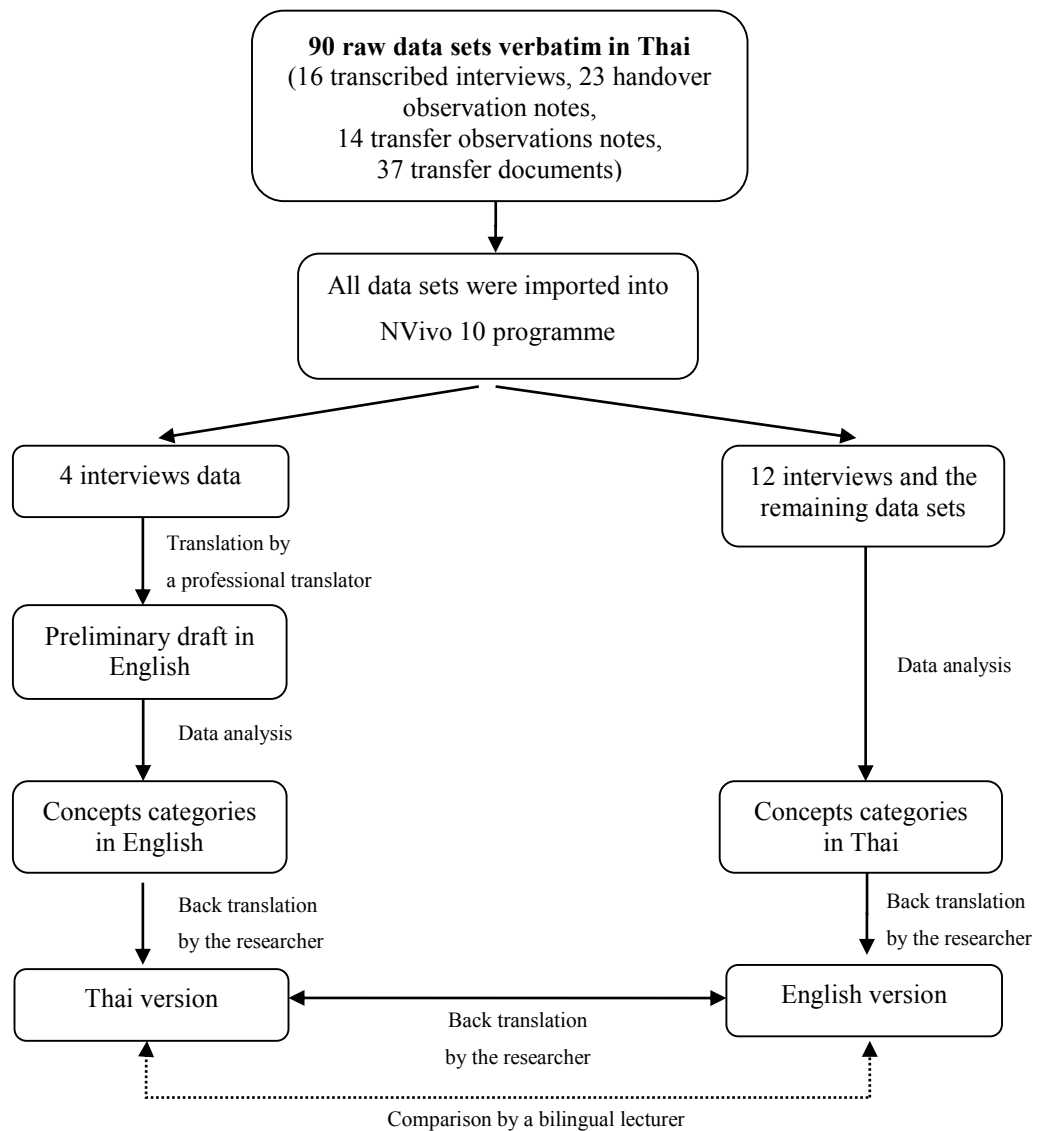


Figure 6: Translation procedure for the study

The second stage was the translation process. When data had been collected in Thai language and the findings presented in English, it was necessary to translate transcripts from Thai into English. These were for refining interview questions and for my supervisions to see what I was doing in my fieldwork. This stage was important because I could check, and reflect, on the appropriateness of my approaches or techniques in the early stages of data collection. This also gave me greater confidence in my observations and interviews. The translation was undertaken for

only the first four interviews. However, the challenges of the translation process were that the Thai and English languages have significant cultural and linguistic differences in grammatical forms. For example, in Thai, tenses are not used as in English. To express time, Thais add modifying words to sentences, although when these are not added, we can generally work out the time from the context. See Table 8 for example:

Table 8: Example of the linguistic differences in translation from Thai into English

Thai transcription	Word by word English translation	Full meaning in English translation
อย่างเคส GI bleed หนักไปเอง BP 80/60 จากที่นี่ เขาว่าคนไข้เป็นโรค Heart ด้วย ก็ Load ไม่ได้ (หมายถึง Load IV fluid) ก็ต้อง ลาก 80/60 ไป จริงๆ น่าจะขึ้น Dopa (หมายถึง Dopamine) ให้ เราไปสักหน่อยก็ได้ เพราะคนไข้ มันมี bleed ตลอด	Such as GI Bleed, I have to go, BP 80/60 before transfer. They said a patient get heart disease; can't be loaded. I have to go with 80/60. He should provide Dopa for me because the patient is bleeding all times.	I have been referred GI bleeding patients with blood pressure 80/60 before. He has heart disease. So, IV fluid could not be loaded. Actually, they should provide Dopamine but they didn't. He was bleeding at all times and I had to transfer him in that condition.

Translation needs to be of a very high standard to bring the second language as close as possible in meaning to the original language (Esposito, 2001, Chen and Boore, 2010). Therefore, I decided to use a professional bilingual Thai lecturer of English to translate Thai text (raw data) into English. Temple (1997) points out the importance of using words that put over the intended meaning, rather than the words of literal translation to convey meaning, and this aspect of the translation requires both researcher and translator to work together. In line with Temple's guidance, the aim of my translation is not to 'copy' what the participants said, but to make sense of the meaning of the original text and then bring it into a new language that captures that meaning as accurately as possible. The English versions were reached by agreement between the translator and myself in order to keep a sense of meaning of this cross-language transition (Krzywoszynska, 2015). Minor changes in the translation were made, in particular in respect of medical terms used by interviewees. At the stage when use was made of the translator, the transcripts were replaced with coded names

The third stage involved analysis of the data. Four interviews were analysed in English. Concerning translation issues related to meaning loss (Willig, 2012), I analysed the data from the remaining observations, interviews, and transfer documents in the original Thai transcripts. This was to preserve the themes emerging from my analysis, and ensure that they were based directly on the original language. When I was sufficiently immersed in the meanings of the data, and when I started writing up, I began to translate some selected extracts in English. Also, after the concepts and categories emerged, I undertook translation and back-translation into English and Thai versions.

The last stage was a comparison of the concepts and categories generated from the Thai and English versions of the data sets. Another English-Thai bilingual lecturer was asked to review the conceptual equivalence and the use of words that most native speakers would understand (Esposito, 2001). As in the second stage, discrepancies between the English language lecturer and the researcher were reviewed and discussed until agreement on meaning was reached. This intervention helped to validate the translation of the general content, which is essential to establish the trustworthiness of the study. The results presented that similar concepts and categories were developed during the analysis of the data, whether Thai or English versions.

The next section considers how to analyse multi-sources of data within this study.

5.4.2 The process of data analysis

An important foundational question for this focused ethnographic research was to understand shared patterns of behaviour, language and beliefs of the participants (Fetterman, 2010). In the delivery of care for safe inter-hospital transfer of critically ill patients. Thematic analysis was selected to identify these patterns of thought and behaviour of transfer nurses. Research questions, epistemology and the theoretical framework background underpinning this study, and what common set of symbols and understandings that give meaning to people's interactions emerged, are primary concerns (Mason, 2002). Consequently, by using symbolic interaction, it is possible to draw out and illustrate this process of how meaning is created within the context of transfer care in order to answer the research questions: (i) what is the meaning of the quality of

care; (ii) what are the most important aspects of transfer care to ensure quality and patient safety; and (iii) what are the most important factors encountered by transfer nurses to ensure the quality and safe transfer care for critically ill patients?

5.4.2.1 Consequences of analysing data triangulation from multi-site study settings

I saw patterns of thought and action repeated in various situations with a mass of undifferentiated ideas and behaviour from triangulated data. Therefore, certain issues associated with the data analysis process have to be considered: (i) how to integrate data from different types of data collection; (ii) what data will be pooled or analysed separately, and (iii) how is a report associated with a focused ethnography to be structured? There is no formula or recipe for the analysis of ethnographic data (Atkinson and Hammersley, 2007).

Figure 7 was developed from Maimbo (2005) to illustrate a data analysis process for this study. The process incorporated the guide to data analysis in methodological literature and by Fetterman (2010) as he recommended triangulating the data to reinforce conclusions, looking for patterns of thought and behaviour, and focusing on key events to which the ethnography can be applied to provide analysis within the entire culture.

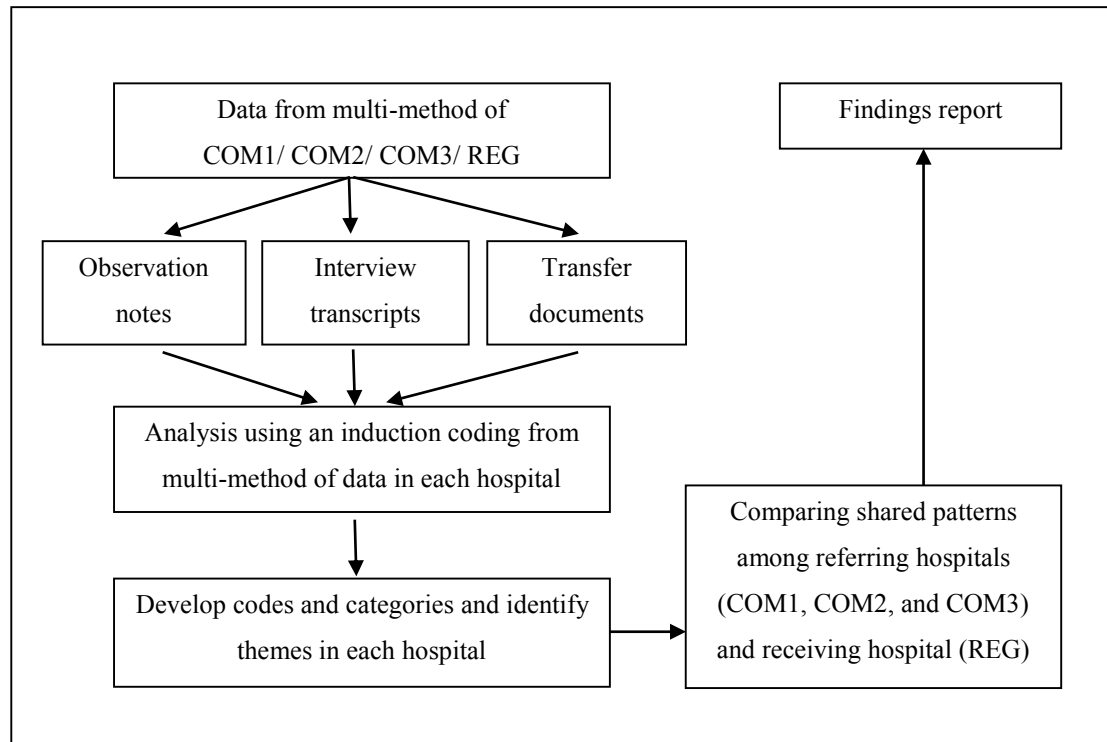


Figure 7: Data analysis process adopted from Maimbo (2005)

The process illustrated in Figure 7 shows that a combination of observation notes, individual interviews and transfer documents was initially planned to provide complementary data. That is, the observation notes were interactively oriented, whereas the individual interviews were used to elicit a detailed personal account of the participant's experience and perspective of inter-hospital transfer care. The use of this strategy was designed to generate divergent and convergent lines of enquiry through participants being asked about their experience of how care was provided to ensure quality and safe transfer care. The transfer document is complimentary data.

The reason for selecting three community hospitals (see section 4.5.3 in Chapter Four) was to examine the process and performance of transfer care in different environments. For this reason, my unity of analysis is 'the process of the delivery of transfer care for the quality and patient safety of each individual hospital.' Thus, the unit of analysis in each hospital is based on a combination of observation notes, interview transcripts, and transfer documents about transfer nurses' experience in the process of transfer care.

The analysis started at REG, and moved to COM1, COM2 and COM3 hospitals respectively.

I began the analysis for REG hospital by looking in detail at observation notes under the context of that hospital before moving to the interviews and transfer documents. As I worked through this method, the themes that were identified in previous methods had an influence on the focus of the subsequent analysis. At the same time, I was also open to, and identified, new or different emergent themes. This meant that both recurring and novel issues were captured. After completion of preliminary themes and their description from all multi-sources of data in REG hospital, the process of analysis was repeated with COM1, COM2 and COM3 hospitals. The analysis for each hospital was done separately.

However, working through the other data, the phrases and the themes that were identified in previous hospitals had an influence on the focus of the subsequent analysis. At the same time, new or different emergent themes were identified. This meant that both recurring and new issues were captured. For example, upon analysis, I realised that the findings on ‘experience of ineffective handover’ in COM1 hospital were very important. This then had an impact on how I approached the analysis of COM2 and COM3 hospital because I deliberately looked for these dimensions to reach a conclusion on whether or not they occurred across hospitals or were only found in one of them. This in turn triggers the question, “What are the similarities and differences between these four hospitals?”

Once each case was completed, connections across hospitals were made. This process involved looking at the themes in four hospitals collectively, and then making connections between them. Recurring themes across cases that captured the most powerful and interesting aspects of the transfer nurses’ experience were identified. Together, these three sets of analyses facilitate the construction of findings reports. This is outlined as thematic analysis and is illustrated in the next section.

Because of concern about how the report focused on the ethnography employed in this thesis, each hospital’s contexts represent a selected group of instances chosen for better understanding of the delivery of transfer care. In this study, two sets of findings are

reported: (i) those from the group of referring nurses of the community hospitals and (2) those from the group of receiving nurses of the regional hospital. However, as the main themes are the result of a combined analysis of the transcript extracts from three data sets across four hospital settings, the findings will be presented where appropriate and will be clearly labelled to indicate if the extract is taken from an individual hospital (see 5.4.2.2 in the next section). This process aims to promote commonality, and at the same time maintain individuality. This also ensures that the data is convergent and divergent in an attempt to understand the overall phenomena, and it details the conceptual description of a cultural group of transfer nurses (Fetterman, 2010). The report on the findings is a summary of the main issues, presenting extracts, evidence of the themes, and literature relating to the themes investigated.

5.4.2.2 Step-by-step stages of thematic analysis

When the interviews had been transcribed, the stages of thematic analysis I adopted and applied to all four hospital settings proceeded in four main stages, described as follows:

The First Stage was immersion in the data by reading and re-reading. Bazeley and Kackson (2013) note that the first reading should be rapid, but purposeful and directed. It should not be bound by research questions so as to obtain a wide sense of the context. Actually, the process of familiarisation with the data had begun earlier, since data collection and analysis were undertaken during fieldwork. As part of the process of conducting ethnography, I used the field notes to capture observations and interviews as stated in section 5.2.2.3 above. I began analysing field notes, interview transcripts, and transfer documents while still in the field. The field notes were re-read to identify areas of similarity in the data. These notes contained valuable comments and insights. When reading and re-reading the text at this stage, it also assisted me to become fully immersed and familiar with the data.

By having data from multiple hospital sites, the text of field notes, transcribed interviews and transfer document reviews was divided into four-hospital settings, namely REG, COM1, COM2, and COM3. They were organised in order to identify similarities and

differences in patterns of thought and behaviour among transfer nurses across four hospital settings. The texts were initially treated in isolation in order to identify unique points in each part of the data to distinguish the quality of care of inter-hospital transfer for critically ill patients among all four hospitals. All hospitals were then imported to the NVivo 10 programme to help manage ninety data sets from field notes, transcribed interviews, and transfer documents in both Thai and English.

The Second Stage entailed coding. At this stage, I labelled specific text in the field notes, interview transcripts, and transfer documents based on their meaning. This is typically referred to as coding chunks of data (Fetterman, 2010). Codes are tags or labels for assigning units of meaning to the descriptive or inferential information gathered during a study (Miles and Huberman, 1994). Coding at this stage serves to index meanings of data. These might not be the final meanings as it is important not to inhibit thought and questioning during data analysis (Seale, 1999). Although coding is a basic way of analysing data, I adopted coding in this study in a more analytical way on what deeper meaning is implied in the text. This involves greater interpretative work (Graneheim and Lundman, 2004). Therefore, this analytic stage involved distinct units of meaning (Ely, 1997) within the data, which conveyed some significance. The elements, which I identified from the field notes and interview transcripts, were distinguished by a break in meaning. Therefore, the lengths and conceptual density depended on what made sense in the data (e.g. words or phrases, sentences, or paragraphs) (Graneheim and Lundman, 2004).

It is important to note that re-reading and revising codes are on-going processes in data analysis as (i) codes will change and develop as field experience continues. Some codes also did not work, others decayed, or no fieldwork fitted them (Miles and Huberman, 1994); (ii) the early stages of coding were used to act as signposts to the data, rather than representing some final argument about meaning. As Seale (1999) comments, coding involves viewing a set of raw data and dissecting them meaningfully and constructing a particular vision of the social world that excludes other possible viewpoints, but if coding fixes meanings too early in the analytic process, it may dull creative thought, blocking the analyst's capacity for seeing new things.

The Third Stage entailed categorising the data. A category is a “group of content that shares a commonality” (Graneheim and Lundman, 2004, p. 107). Hierarchical coding, by using key words or phrases copied from distinct texts and separate coding schemes to identify categories, was organised. In this stage, similar codes were copied into a tree node folder in NVivo 10 (Bazeley and Kackson, 2013) and the codes that did not fit were left to stand separately. During the categorisation of the codes, I looked for links between these codes. This process helped me to recognise relationships and patterns of the themes that run through the categories (Ely, 1997). The meaning of text in each category was re-examined and redistributed, and re-labelled to make sure that those categories suited the data. Table 9 illustrates some examples of the process of the emergent theme labelled ‘barrier factors influencing safe transfer care’ from multi-method of data. This category situates the working context of referring nurses in community hospitals that emerged from observations, interviews and transfer documents.

Table 9: Example of emergent themes from categories and codes

Transcripts	Codes	Categories	Themes
...Because we don't have enough staff. When there are newly graduated nurses, we will see if they stay at a hospital flat. We'll ask them to help do the transfers because these days there are still not enough nurses on transfer duty. We have to work very hard these days. I used to finish my ER duty in the morning and continue to be on the transfer duty in the afternoon and then ER duty again at night... I admit that it is very tiring. (Suda.P1COM2)	Nursing shortage Heavy workload	Shortages in the nursing workforce and their impact	Barrier factors influencing safe transfer care
Around 5 minutes after the departure, R2 said that: "I feel like I have motion sickness." Her face looked pale. ...Today I felt more tired than usual because I had just finished the night shift, then I was called to accompany patients, and I didn't have time to have breakfast. It makes me sick when I have no sleep and don't eat. [Field notes p.81.COM2]	Being affected by motion sickness/ Nurse fatigue		
"When I accompanied a full term labour pregnancy with eight centimeters of cervix dilatation, oh! there were a lot of problems! We had to monitor the foetal heart sound (FHS). However, we didn't have an FHS Doppler on the ambulance. We had just one machine in the hospital...." [Kanda.P1COM1]	Inadequate advanced monitoring	Inadequate advanced technical resources	
I am an IPD nurse. I was afraid that there would be a complication for the patient in the ambulance, or if the patient gave birth in the ambulance, I couldn't manage it. Two lives were in my hands: a mother and a baby. I felt anxious about my skills if I did something inappropriate, or if my patient deteriorated, and particularly the baby, I would feel guilty. [Field note p.104.COM3]	Feeling of fear	Feelings of fear and insecurity	
Throughout the local highway, from our hospital to the motorway, there are many narrow, winding sections of road. It is hard to drive on these types of roads at high speed. So, there is a high chance an accident could occur. [Supaprn.P2COM1]	Feeling insecure		

From the above, it is clear that the combination of method triangulation in this study brings about a deeper awareness of the collective understanding of the experiences of transfer nurses. This is a positive response to using a focused ethnography to understand shared patterns of both the referring and receiving nurses' experiences and accounts (Bekhet and Zauszniewski, 2012).

The Final Stage was developing emergent themes. Categories were combined into themes. Clusters of linked categories that conveyed similar patterns or meanings were formed into a central theme or statement for each participant. Graphic models in NVivo were used to allocate categories to themes that enabled visual representation of relational coding (i.e. cause, property, aspect, association and result) for generating primary themes (Bazeley and Kackson, 2013). From the lists of the categories, connections between those of them that were identified and those that had similar concepts were clustered together. After major themes and categories emerged, a conceptual framework associated with the quality and safety of transfer care was created through the integration of these major themes and twenty-one categories, which is discussed in topic 8.3 in Chapter Eight.

5.5 The quality criteria in the qualitative research

To engage in ethnographic research means to commit oneself to the qualitative paradigm, therefore recognising high-quality in qualitative research should be considered. Guba and Lincoln (1989) assert that the development of quality in qualitative research is the trustworthiness that parallels the standards of reliability and validity in quantitative research. From Guba and Lincoln's framework, there are four criteria for developing the trustworthiness of a qualitative enquiry: (i) credibility, (ii) dependability, (iii) confirmability and (iv) transferability. These four criteria for trustworthiness are thought to be equivalents to the criteria used by positivists – internal validity, reliability, objectivity and external validity. The procedures to ensure the quality used in this study follow these four criteria and are demonstrated here.

Credibility refers to confidence in the veracity of the data and its interpretations. In this study, multiple methods of data collection were used. These were observation, semi-structured interviews, and document reviews (triangulation) to help capture essential

information and minimise investigator influence such as research bias (Jonsen and Jehn, 2009). The triangulation used develops a comprehensive understanding of a phenomenon to increase the credibility and believability of the findings (Polit-O'Hara and Beck, 2008).

Moreover, to increase credibility in the study, participant checking was also used during data collection (Hamilton, 2013). During data collection, all sixteen interviewees were provided with copies of anonymised transfer scripts of their own semi-structured interviews to give them an opportunity to read and confirm the accuracy of the data. Spear (2006) concurs with such a strategy and says the return of the original text can ensure that all conclusions are firmly grounded in the data. Hamilton (2013) points out that the advantages of this approach are important for reinforcing the trustworthiness of the research as any inaccuracies can be picked up before the final stage of the data analysis. After returning the transcripts, responses were received from fourteen of sixteen people. No participants requested amendments. However, the observation field notes could not be returned to particular participants. This is because the observation of transfer of critically ill patients occurred during accident and emergency situations. The transfer personnel caring for critically ill patients throughout the transfer processes worked as a team and involved various people such as a physician, a nurse in-charge, and other personnel such as referring nurses and receiving staff. It is therefore impracticable to identify specific people who should be respondents in those situations. Moreover, establishing credibility was also undertaken by discussion of the results of the data collection and my emerging findings for the first four transcriptions. Corrections and improvements to the coding schemes were then developed until there was agreement.

The dependability criterion refers to the stability (reliability) of data over time and across conditions. This is auditable criteria for rigour because it deals with the consistency of data. To minimise inconsistency of data collection in the study, I used an observation guide and interview guide (Appendix M and N) as Yin (2014) and Runeson and Höst (2008) suggest during the conducting of the observation. The observation guide for this study was developed through a careful screening process and was continuously updated when plans changed (Runeson and Höst, 2008). It outlines the

procedures and rules governing the conduct of data before, during and after undertaking this ethnographic research. It is particularly useful in this study as it involves multiple locations and multi-method of data collection over a period of time as it ensures uniformity in data collection and analysis (Maimbo and Pervan, 2005). In addition, these guides serve other purposes. Firstly, the guide allowed the planning of the thesis to be based on real information, which was helpful, and assisted the researcher in deciding what data sources to use and which questions to ask. Secondly, it can be used for reviewing input from relevant researchers/participants, which reduces the risk of missing important data sources, interview questions or roles to be included in the research. Finally, it also can be used as a diary in which both the data collection and analysis can be noted alongside any changes which may be necessary in accordance with the flexibility required in qualitative research.

The confirmability criterion is one which can be assessed if the results presented are rooted in the context described, such as the data obtained from the participants and the daily activities in the setting. The focus is on the result itself and how this was processed (Polit-O'Hara and Beck, 2008, Robson and McCartan, 2016). The confirmability in this study was audited, including tracking back the data to their sources and testing if the research narrative assembles the interpretations into a structurally coherent and corroborating whole. Also, the method of triangulation used ensured the findings reflected the participants' voices and the real situation of the research rather than the biases, motivations or opinions of the researcher (Guba and Lincoln, 1989, Jonsen and Jehn, 2009). I was also concerned about the way in which interpretations were reached. This was emphasised in the section 5.4.1 and 5.4.2 above. Polit-O'Hara and Beck (2008, p.539) note that the "confirmability criterion is concerned with establishing that the data represent the information participants provided, and that the interpretations of those data are not figments of the inquirer's imagination."

The last criterion, transferability, refers essentially to the applicability of the findings to other settings or groups. As the qualitative research is grounded in the context that it can be applied to other settings, this can be challenged. As I pointed out in Chapter Three on the criticism of ethnographic research, Guba and Lincoln (1989) argue that

transferability is related to the similarity between two situations concerned, such as the number and the differences in variables, how unchanging the population in the areas is, and differences and similarities of social, economic, and political factors and to what extent the same events can be observed. If the original context is described adequately, the reader will judge if transferability can be made or not. For ethnographies, furthermore, the intention is to enable analytical generalisation where the results are extended to other cultures/contexts that have common characteristics and for which the findings are relevant (Runeson and Höst, 2008).

5.6 Using reflexivity within the research

This section discusses how my reflexivity is embedded within this research. The term ‘reflexivity’ in social science is defined and used in various ways, mainly depending on the philosophical stance upheld by the researchers (Mauthner and Doucet, 2003, Couture et al., 2012).

From my philosophical stance, I situate my research within social constructivism, in which assumptions of conceptions of uncovering reality or truths as subjectivity, and therefore a denial of a reality from objectivity which is geared to a statistical logic of positivism (Silverman, 2014). Taking up this position, I consider knowledge and understanding as being grounded in the contextually and culturally bounded horizons of the researcher or the interpreters (Speziale and Carpenter, 2007, Couture et al., 2012). Consistent with this position, an ethnographic approach is recognised by the necessity of the researcher to perceive or respond to events or analysis, and to regard these as being both opportunities and barriers to reaching an understanding of transfer nurses’ experience, depending on how well reflexivity is engaged with (Clancy, 2013).

By ‘reflexivity’ I mean the process of recognising a researcher’s involvement and awareness throughout the research as well as carefully considering assumptions in order that meaningful analysis can be constructed (Asselin, 2003, Couture et al., 2012). This process contributes productive knowledge and facilitates understanding and insight into the working of transfer nurses (Couture et al., 2012). By engaging in reflexivity, I develop awareness of my role in knowledge co-construction through my investigation, and clarification of my influences on the research. Embedding

reflexivity within this research identifies the potential values of maintaining reflexivity (Asselin, 2003) by:

- (i) examining the impact of the position, perspective, and presence of the researcher;
- (ii) promoting rich insight through examining personal responses and interpersonal dynamics; and
- (iii) evaluating the research process, method, and outcomes.

5.6.1 Reflexivity – my position within the research process

Based on such conceptualisations of reflexivity, I conduct a reflexive attitude to express myself within the research, to articulate and acknowledge my inevitable influences on this research. This includes the role of prior assumptions and experience of a researcher (Mays and Pope, 2000, Symon and Cassell, 2012, Clancy, 2013).

Hindsight has enabled me to understand and articulate how my Ph.D. research has been influenced by academic and personal biographies (Mauthner and Doucet, 2003) as stated in section 1.1 in Chapter One. My motivation for pursuing this research came initially from my personal experience in the inter-hospital transfer care in a tertiary regional hospital because I spent a considerable amount of time practicing acute and critical care, and teaching nursing students there. This personal background helps me to enter the field gaining an emic perspective (Savage, 2006). On the other hand, I felt my personal background might unconsciously influence data collection and analysis or findings. For example, I might prejudge care provided by transfer nurses. Mays and Pope (2000) state that the personal characteristics of the researcher can influence biases in research processes. Therefore, the personal and intellectual background of the researcher needs to be made clear at the outset to ensure the credibility of the research.

Similarly, Clancy (2013) points out that the main problem for researchers often comes with ‘role confusion.’ This issue arises when researchers have other involvement in a situation – feelings, emotions, vested interests and so on, which are different from those of a researcher. This can lead to critical details being overlooked and

inappropriate responses or wrong conclusions being made (Asselin, 2003). It is important to be aware of how my background and research role might influence data collection and findings - by using reflexivity during data collection and focusing on the research aim in order to uncover the truth of transfer nurses' experiences.

Also, research creates singular challenges, particularly in relation to the researcher's role and identity that need to be thought through and made transparent (Clancy, 2013). Before I went into the field for research, I considered how I might present myself to hospital departments. For example, should I wear a nursing uniform or civilian clothing? In an attempt to neither confuse staff nor patients, I decided, in consultation with the head of ED of REG hospital and each of three community hospitals, to wear a nursing uniform since the aim of ethnographic study is for the researcher to become immersed in the culture of the subjects being researched (Fetterman, 2010). I also wore a university student identity card at all times.

When there are multi-faceted role identities – as a researcher, a registered nurse, and a nursing instructor – in data collection, it is crucial that focus is kept on the research aims. Through reflexivity, my research role creates particular challenges for me, which must be addressed (Clancy, 2013). The first priority with every participant was to negotiate relationships where patient safety during the transfer process was the priority. It was inevitable that my position affected the findings. On some levels, I became a member of the team. Through this type of participation, I must realise that my presence alters the context and culture, and I have the potential to lose my objectivity more than is typical in the conduct of most types of research. Maintaining a completely detached view is therefore difficult to achieve (Mauthner and Doucet, 2003).

Throughout the conduct of my research, in particular during the periods of my data gathering and analysis, I used reflective field notes and discussed my responses to the process of transfer care in which I was involved with each hospital, and my interpretations, with my research supervisors. In my reflective field notes, I maintained a record of my observations, involvement, feelings, thoughts, and new learning. By using these approaches, I could observe my objectives and inclinations, which may

otherwise have become biased because of my background and my professional perspective. If this had been left without analysis, it may have had a poor reflection on the outcomes of the overall research (Mauthner and Doucet, 2003).

5.6.2 Reflexivity – my position during the research process

I found many incidents and challenges that required to be overcome and managed within the research process during my fieldwork. Through application of reflexivity I was able to consider how I addressed these challenges and what I might do differently if I had the opportunity.

Ethnographic researchers become instruments in their research (Angrosino, 2012). I needed to justify the role that I played in the investigation of the culture of transfer nurses. The role required my participation in this culture, observing and interviewing the participants, making document observations, and collecting artefacts of the culture of the transfer nurses' group, analysing and reporting the findings (Speziale and Carpenter, 2007). However, there are no explicit rules for the ethnographer who is participating or observing (Speziale and Carpenter, 2007), including in complex clinical situations during referring and receiving critically ill patients; I was often involved in the transfer process to varying degrees depending on the situation. When the ED is busy, particularly during lunch time or during the evening shift because a number of patients are admitted who mismatch with nursing staff (normally two registered nurses work in an evening and one or two people work a night shift), I, as a volunteer, was therefore quite involved as a participant. During times of less pressure, I spent more time observing or interviewing situations and participants. My offer of help in clinical practice also assisted my approach and gave me a better rapport with the participants, such as ED nurses, than would have occurred by me merely observing what they were doing (Creswell, 2013). I noticed that they were more open with me and they were more co-operative; for example, the nurse-in-charge would call me when they had critical patients coming in during my off-duty hours.

Benefits arose from initially collecting data at the hospital where I know the staff personally. This helped me later when gathering data at the most-distant community

hospital (COM3) where many challenges have to be confronted in transfer care. However, I am aware of implications arising from close attachment between myself, as a researcher, and the participants. This attachment also might raise ethical concerns. Some interviewees in regional and community hospital settings were familiar to me as they were my ED colleagues and/or my former students. These attachments aid bonding and cooperation. They were beneficial and could give the interviewee greater confidence in addressing the researcher's questions (Asselin, 2003), but also involved the risk of too much informality. Therefore, the relationship with the participants, and its impact on the outcome of the study, was considered. Baillie (1995) states that the relationship between researchers and participants should not be too friendly as there was a risk of the data received being limited and distorted. For example, there were moments when I believed that nurses did or said something to please me or to positively influence the outcome of this study. In contrast, to capture the 'native's point of view' requires a relationship of dialogue, cooperation and respect (Baillie, 1995). Trust in me occurred when the participants shared their experiences and their transfer care behaviour with me. I became aware that sharing such experiences made transfer nurses vulnerable as they were disclosing their experiences, competences and beliefs to me as an observer. Respect and caution were therefore essential for maintaining relationships of trust. The following observations were made in my reflective field notes:

Getting to know the transfer nurses and having them feeling comfortable about my presence might be a difficult task. The study will also be impacted by who is working on the days I am present. The issue that gives me concern is: Will I follow and observe the nurses who I already know, and get along with well? If that is the case, will they perhaps be more positive about my participation, perhaps have more positive attitudes, and therefore take positive action to a greater degree than they normally would during their transfer of critically ill patients?

This issue was considered to be very serious and was dealt with in several ways. Firstly, respect for the culture was considered essential. I had obtained permission to be at EDs/MWs/IPDs as an insider for a certain amount of time. A respectful, friendly, open-minded attitude to staff in the ward was therefore very important. Secondly, the observations were planned in a way that would reveal care by transfer nurses throughout processes of inter-hospital transfer of critically ill patients. It was therefore

coincidental which nurses I worked with; it did not depend on a good relationship (Polit-O'Hara and Beck, 2008).

Because of the importance of this study to patient safety during inter-hospital transfers, it is to be expected that participants in research would not allow danger or harm to patients and participants during observation. However, at any time there can be mistakes made or things left undone through human action Robertson and Boyle (1984, p. 48) state, "If a nurse observes inadequate or inappropriate medical care of a study participant, it may be necessary to remain silent to avoid interfering with the only health care resource available to that person, unless the potential harm is of an extreme nature." Therefore, when there is a risk to patient safety, or there is the potential for harm to occur to the patients, I am a registered nurse who is acting as a researcher who has decided to become involved in medical care of a study participant. Therefore there may be circumstances when my role has to reverse to that of a researcher who is also a registered nurse.

A couple of incidents, for example, offered unexpected challenges associated with my role, and with moral and ethical questions such as whether I should be involved in the processes of transfer care. In the first situation, I decided to become a member of a team by helping the emergency doctor insert an endotracheal tube into a patient with a stab wound with a massive haemothorax at the right chest. This was during an evening shift when there was a shortage of nursing staff, and it was at a particularly busy time in COM3 hospital. Additionally, I participated in the transfer management by stripping the tubing of the closed-chest drainage to help in freeing the drainage in this patient. This took place in the ambulance after I became aware that content from the drainage had stopped suddenly and there was no further procedure initiated by the referring nurses – these being a maternity nurse and a nosocomial infection control nurse. I was concerned that the tubing was obstructed by an active blood clot. Having insider clinical knowledge and experience, it was necessary for me to be identified on a common professional basis by becoming involved in the participants' activities in order that patient safety was ensured (Asselin, 2003, Couture et al., 2012).

The interviews also had a direct impact on nursing activities during this study. Changes in cooperation during the handover process between the dispatch nurse of the referral centre and the ED nursing staff of REG hospital became apparent. As the observation notes recorded, for example:

In place of shouting to the ED staff in the handover area, the dispatch nurse walked to hand over to a particular nurse in a red zone of ED. These changes occurred after I had interviewed the manager of the referral centre and asked, "What information regarding the patient is passed on to the ED staff." When asked this question, almost every participant from REG hospital realised that there were no set guidelines or protocols for patient handovers within their team. [Field notes p.26.REG]

The interface between myself and participants need to be considered because of the possible impact on transfer practice instigated by the nature of the study (Burns and Grove, 2001). Through this type of participation, I realise that my presence alters the context and culture, and I have the potential to lose the objectivity that is so important in the conduct of most types of research. To address this issue, Carspecken (1996) suggests conducting passive observation first, and more interactive modes of generating data later on. However, the effect of this during interviews on cooperation within ED staff of REG hospital was seen after I had spent about three weeks undertaking observation and data collection during the handover transaction at REG hospital. Additionally, the impact of semi-structured interviews on participants' behaviour has had a positive effect on the quality of care, particularly in the operational process within the ED department.

For the post-fieldwork process, I found it greatly challenging to make sense of my data analysis, especially *integrating* the multiple method of data collection and multiple perspectives of the participants when combining contextual information. For example, it is difficult to put in place rigorous coding using the inductive approach. Initially, I felt that all my data was important and I was anxious about losing important detail. I had around 120 codes within the first three transcriptions, and initial coding was coded inconsistently. I felt that I was analysing incorrectly, but after I focused on research questions, undertaking more careful of my data, re-naming codes, re-coding, describing my codes and writing memos, I found the different steps in the process very useful to clarify my thinking and facilitate the development of my themes. When I

finally started to write, I found the linearity of a written thesis problematic when trying to interweave theories and empirical findings. However, writing up the research was rewarding as I was able to make sense of the data.

To maintain a completely detached view in this study, the use of reflexive field notes and discussion of my interpretations and responses to the process of transfer care, I involved my research supervisors throughout my data gathering and analysis – this was very useful. In my reflective field notes, I maintained a record of my observations, involvement, feelings, thoughts, and lessons learned as demonstrated above. By using these approaches, I could identify my objectives, which may have otherwise been biased by my background and professional perspective (Mauthner and Doucet, 2003).

5.7 Summary

This chapter provides a detailed discussion of how research in three community hospitals and one regional hospital was carried out. Qualitative focused ethnography was conducted with ninety raw data sets within these settings. The fieldwork took five weeks for each individual hospital setting. The observation, semi-structured interviews, and transfer documents covered a range of topics related to the meaning and the method of transfer nurses' experiences and explored the contextual opportunities and challenges of ensuring quality and safe transfer care. Various procedures for enhancing trustworthiness, and managing the rigour and transparency aspect of the qualitative research, including reflexivity during data collection, and ethical considerations, were discussed. This chapter has also outlined how themes within a data-driven approach were used in order to provide both breadth and depth in addressing the research questions. The exploratory analysis helped identify relationships, patterns and themes in the way transfer nurses defined quality of care as well as how those definitions varied across the referring and receiving nurses. A key finding was the identification of a common definition of quality and safe transfer care that was shared by all participants. I ended this chapter by discussing how my reflexivity is embedded within this research.

In the next two chapters, the analysis of the findings will be presented.

Chapter Six: Contextual Factors Influencing Transfer Care Behaviour

6.1 Introduction

In this chapter, I present and discuss my findings from the data analysis. Verbatim quotations are used to illustrate transfer nurses' experiences and their interpretations of contextual factors facilitating and inhibiting quality of transfer care. Pseudonyms are used to present the data. The initials 'BE' are used for the researcher. The term 'referring nurses' is used for participants involved in transferring critically ill patients from community hospitals. 'Receiving nurses' refers to participants receiving critically ill patients at the regional hospital emergency department (ED). 'Transfer nurses' refers to participants involved in inter-hospital transfer between and within both settings. COM1, COM2, COM3, and REG hospital are the abbreviations for Community Hospital 1, Community Hospital 2, Community Hospital 3, and the Regional Hospital. Notations appearing in translated extracts are retained because of their importance in contextualising interview data as follows:

bold text	– emphasised words
(...)	– omitted words
...	– long pauses
[?]	– inaudible words

In the findings, the initial focus is on the context of care provision at the referring hospitals (COM1, COM2, and COM3), in ambulances, and upon arrival of the patient at the ED of REG hospital. These reveal the two major themes influencing quality of care throughout inter-hospital transfer processes in a Thai context. These two main themes included 'protective factors' and 'barrier factors' because of their influence on quality of transfer care. The protective factors included four categories that consisted of having responsibility and accountability as a nurse, transfer nurse recruitment for transfer assignments through sharing workload, mentoring support, and providing a blame-free culture. There were five categories of barrier factors including shortages

in the nursing workforce and their impact, haphazard training, inadequate advanced technical resources, feelings of fear and insecurity, and work constraints on communication during handover. These themes and categories are illustrated in the causal linkages among contextual factors influencing safe transfer care as shown in Figure 8.

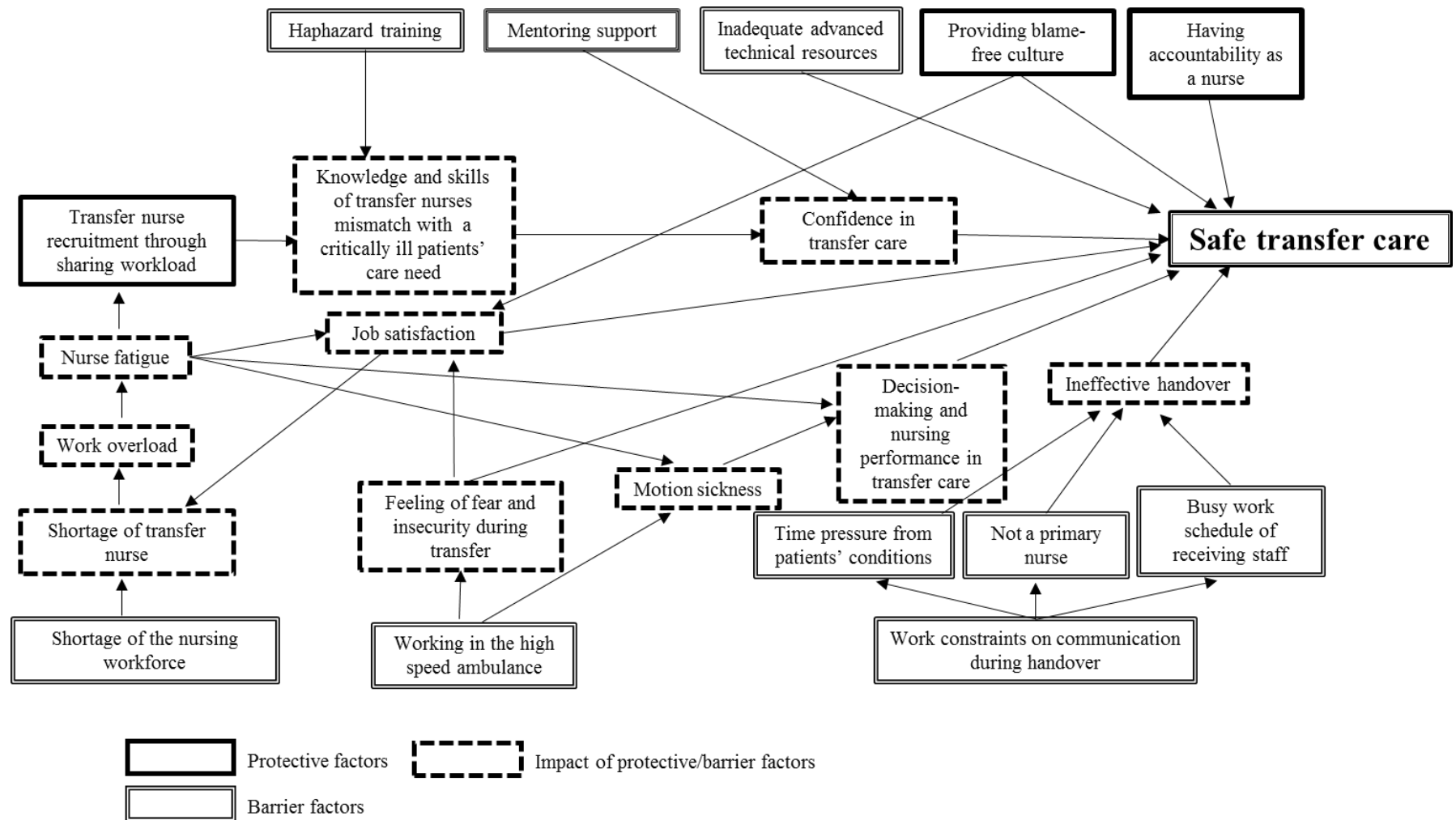


Figure 8: Causal linkages among contextual factors influencing safe transfer care

The descriptions, properties, and empirical evidence were provided in detail as follows.

6.2 Protective factors influencing safe transfer care

The first main theme, 'protective factors influencing safe transfer care,' which emerged as contextual factors from referring nurses' experience, enhanced the likelihood of positive outcomes in safe transfer care. Under this theme, I discuss four categories that represent main factors influencing safe transfer care. This first category, discussed in section 6.2.1, describes the strong sense of responsibility and accountability in transfer nurses to keep patients safe. The second category, section 6.2.2, examines transfer nurse recruitment through sharing workload and examines local policies of community hospitals in recruiting transfer nurses to assist in the transfer system. The third category, section 6.2.3, illustrates mentoring support for newly registered nurses in transition to the role of transfer nurse. Section 6.2.4 examines provision of quality improvement culture and describes the need for a positive work environment and blame-free culture in the transfer care system.

6.2.1 Having responsibility and accountability as a nurse

'Having responsibility and accountability as a nurse' means that transfer nurses had a strong sense of being accountable for care and actions within the constraints of the context when they were assigned to transferring critically ill patients. All nurses gave priority to the safety of patients during transfer. For example, a referring nurse shared her experience in transferring a woman with hypovolemic shock from severe active bleeding. She showed her sense of responsibility to care for the patient by making her decision to transfer the patient although she had to transfer the patient within limited hospital capacity.

After we completed transferring a patient with dyspnoea from severe pneumonia in an evening shift, a referring nurse told her experience about transferring a woman with hypovolemic shock: "... Although, we were unable to give her more treatment because of limited hospital capacity, I decided to transfer this patient. If we had not transferred her, she would have not had any chance to survive."
[Field note p.100.COM3]

Another nurse, Siri, also addressed her sense of duty when transferring patients at times of limited hospital capacity.

“Because of our limitation of capacity of treatment, transferring critically ill patients was a way to keep a patient safe... When we transferred them, we wanted those patients to be safe, so that they didn’t have complications or that they did not get worse.” [Field note.p60.COM1]

Suda, an ED nurse, also demonstrated her accountability as a nurse when caring for a ruptured ectopic pregnancy patient with low blood pressure. She was an inter-shift nurse and agreed to act as transfer nurse for this patient because there are no transfer nurses in a morning shift in COM2 hospital.

“If I didn’t go, the patient might die because nobody can go. It is my accountability as a nurse.” [Suda.P1COM2]

Having accountability for care was clearer when these nurses were called to replace transfer nurses who were not available when assigned in a transfer shift rota. They indicated that they had to accept the call in order to help these patients. For instance, two nurses without experience in caring for patients with massive hemothorax were called to transfer the patient at the end of evening shift. Naree, a nosocomial infection nurse, and Manaow, a maternity nurse, working in COM3 hospital, agreed to transfer the patient together which illustrated the obligation of a nurse to account for patient safety when they were called to transfer this patient. Naree said,

“If I was called to do the transfer it means nobody else could go to transfer them and there was a shortage of transfer nurses. When the in-charge nurse told me that this patient needed two nurses during transfer but nobody from IPD was available, I knew that I had to transfer this patient because I was accountable to ensure patient safety.” [Field note p.101.COM3]

In general, nurses who are accountable are those who have their responsibility for what they do and they are able to give a reasonable description for their actions. Accountability is a part of their professional duty and is expressed as a value that comes from within the person (Lewis and Batey, 1982, Scrivener et al., 2011). With the transfer nurses described above, accountability is reflected as the willingness of an individual nurse to accept their duty for ensuring patient safety. This suggested that referring nurses believed that transfer was important and the best choice for the

patients during their critical health situations. Therefore, transporting critically ill patients to a regional hospital is the responsibility for which the transfer nurses are accountable to their patients.

Based on their belief in nursing as a profession, all transfer nurses expected the positive transfer outcomes for the patients. They said ‘plodphay’ (ปลอดภัย) in Thai which means ‘patient safety.’ All transfer nurses stated that ensuring patient safety was their first priority while transferring their patients; hence, ensuring patient safety and delivering high quality of care during transfer were the same thing in transfer nurses’ perspectives. For example, Ladda, an IPD nurse, shared her expectation in transfer of patients; especially, her expectation of improving health conditions as follows.

“The quality of transfer care was patient safety. When we transferred patients, we expected patients to be safe.... It was the care we gave to patients during transfer, from loading the patients into the ambulance until arriving at the regional hospital; their condition should not deteriorate, and their symptoms should remain stable or improve” [Ladda.P2COM2]

Alan, who worked in the IPD, similar to Ladda, also expressed this expectation in his interview:

“I expect the patients we transfer to be safe. Patient safety means that patients are in a stable condition, such as neuro (neurological) signs not dropping, vital signs are stable.” [Alan.P4COM3]

The above extracts demonstrate clarity in the meaning of responsibility and accountability of care. The patients being transferred are expected to be safe, and patient safety from the perspective of transfer nurses is ensuring the patient is stable on reaching the destination, and that complications or deterioration do not arise during the journey. How to deliver safe patient care will be discussed further in Chapter Seven.

However, ‘maintaining patient stability’ until arrival at the facility hospital might be difficult for some critically ill patients who might deteriorate during or shortly after transfer due to their pathophysiological process and risk during hospital transportation (Robertson and Al-Haddad, 2013, Droogh et al., 2015). This is illustrated by a referring nurse who is the head nurse of the ED of the COM2 hospital. She demonstrates what

quality of transfer care means when a patient is deteriorating or dying during transfer or upon arrival at the regional hospital:

“..., the transfer objective is to prevent the patient dying, but it means we have to assess and solve all patient problems within our capabilities. A question arises when we have already solved problems for the patient, but the patient still deteriorates or dies because of the patient’s pathological state. We can say that we have done everything we can for the patient. However, if you didn’t assess the patient, or you assessed the patient, but you didn’t do anything to help them, and then the patient gets worse, this is a problem of care. We can say the quality of care is poor.” [Thantawan.P4COM2]

Thantawan emphasised the ‘exercising your responsibility of care’ in terms of assessment and solving the problems of critically ill patients. This should be the best care by individual nurses to ensure patient safety when adverse events occur. If the transfer nurses care for the patient with knowledge and competency, even if the patient deteriorates or dies during the transfer, quality of care has been delivered.

Interestingly, the meaning of patient safety during the transfer care from the transfer nurses’ perception is ‘maintaining the patient’s condition.’ This meaning is associated with the process of care during the transfer of critically ill patients. The primary factor associated with maintaining patient stability is the knowledge and competency of transfer nurses (Benner, 2001, Droogh et al., 2015). However, the meaning of patient safety found in this study contrasts with examples in other sources in that it is organisational in nature. The literature reveals that patient safety refers to preventing errors and harm to patients (Institute of Medicine, 2000, Berwick, 2002, Vincent, 2010). For example, the Institute of Medicine (2000) states that patient safety is defined as ‘freedom from accident injury’ - that means no clinical error by unintentionally doing wrong. Errors is something done by accident, unintention, or use of the wrong plan which can happen in all stages in the process of care.

Vincent (2010) comments that there are different views of patient safety, but the focus of patient safety research and practice should be on ‘error or harm.’ When considering the overall aim of patient safety, there are some reasons for preventing ‘harm’ as one of the primary concerns of care. Harm is any physical or psychological damage to an individual (Haxby et al., 2010). The first reason is that harm is what a patient’s care

mostly about. Data from the interviews show, for instance, that *“the physician must consider risks during transfer and whether treatment, such as intubation before transferring a stroke patient with a borderline GCS score between eight or nine, because the patient might deteriorate during transfer due to age, pathological change, distance and road conditions. In this case, the patient lost consciousness before arrival at REG hospital.”* [Field note p.97.COM3]. Second, we need to consider all multiple forms of harm that can arise in health-care (e.g. infection from unsafe injection, adverse drug reactions, and overdose from badly designed infusion pumps). Third, nurses might tolerate errors under their care as some errors do not lead to harm. However, it is necessary to acknowledge errors that do cause harm, and prevent them recurring in order to maintain safety.

Bosk (1979) found in his ethnographic study that harm in medical care fell into two main areas. First, failure to correctly apply the body of theoretical knowledge to the appropriate professional action (which leads to technical error), or failure in judgement when an incorrect strategy of treatment is chosen. Second, there can be failure to follow the code of conduct on which professional action is based because a surgeon failed to discharge his role and obligations conscientiously, or a claim on his judgement in being as good as that of his superiors. Failure of this sort is moral in nature. Moral failure is identified in two kinds of errors: normative and quasi-normative. Moral failure is more often the subject of serious social control efforts than error in techniques.

All in all, the literature on the meaning of the quality of health care demonstrates the use of different meanings of quality of transfer care that are found in this study (see details in Chapter Three). It might be either because of the characteristics of a critically ill patient, hastily delivered patient care, or the limited care capacities in community hospitals (i.e. specialists, investigative tools, ICU beds). It might be due to unclear distinctions between the meaning of the quality of care and patient safety in clinical practice, and how to assess this in the setting of inter-hospital transfer care of critically ill patients. It also relates to different levels of point of view of the meaning of quality of care. The concept of quality of care found in the literature is wide; it is a macro system that includes the organisational level, such as the Institute of Medicine's (2001)

launch of ‘Crossing the Quality Chasm’, or the National Health Service’s (NHS) introduction of ‘clinical governance’ to ensure patient safety and quality of care. The data in this study refers to a micro system level and understanding of patient safety at nursing staff level.

6.2.2 Transfer nurses recruitment through sharing workload

This second category, ‘transfer nurses recruitment through sharing workload,’ emerged because there is a high volume of patients in rural community hospitals needing to be transferred to the regional hospital, resulting in severe shortage of transfer nurses. The participants in all three-community hospital indicated that there are acutely and critically ill patients requiring transfer to the regional hospital (Table 10).

Table 10: Ratio of registered nurses and transferred patients from the community hospitals to REG hospital

Details Fiscal year	COM1 hospital ⁶		COM2 hospital ⁷		COM3 hospital ⁸	
	2011	2015	2011	2016	2011	2016
Number of RN	42	55	38	37	29	31
Transferred patients from departments	3,436	4,421	3,466	5,080	1,219	2,303

During the data collection period in 2011, on average, there were nine to ten transfer patients daily. The number of transfer patients increased significantly from COM1, COM2, and COM3 to REG hospital in 2015/16.

Every patient should be accompanied by transfer personnel, the regional hospital observing that some critical adverse events occurred in those patients unaccompanied by a transfer nurse. Pranee, head of emergency department (ED) nurses at COM1 stated that:

⁶ Consolidated annual summary of transferring patients of COM1 hospital

⁷ Consolidated annual summary of transferring patients of COM2 hospital

⁸ Consolidated annual summary of transferring patients of COM3 hospital

“...Some patients had no transfer nurse to accompany them, such as patients with fractured femur and appendicitis. It was reported from the regional hospital that some adverse events, such as shock, bleeding, or low blood pressure occurred in patients as a consequence of there being no transfer nurse [Pranee.P4COM1].”

The consequence of this situation is development of a local policy that is applied within all three community hospitals, entitled ‘transfer nurse recruitment by sharing workload’ in order to make more nurses available for transfer duties. This has streamlined inter-hospital transfer care in the community hospitals to ensure greater patient safety. The system operates by rescheduling nurses on their ‘day off’ to be available for transfer nursing (see Table 11 and Table12).

Table 11: Structure of the transfer rota and the transfer nurses allocation between community hospitals

Characteristics	COM1 hospital	COM2 hospital	COM3 hospital
A responsible person on the transfer shift	Every registered nurse (RNs)	Every RNs (except head of nursing, head of each department, OPD nurses)	Every RN including an emergency medical technician-intermediate (EMT-I) (except head of nursing, head of each department)
The responsible person on the transfer rota	A nurse in a department (turnover every week in the calendar month)	Individual nurse on day off	Individual nurse on day off
The transfer rota	Three shifts: morning, evening and night	Weekdays: two shifts (evening and night) Weekends and public holidays: 3 shifts (morning, evening and night)	Weekdays: one shift from 4pm-8am Weekends and public holidays: one 24-hour shift from 8am-8am
Personnel who are responsible for transfer on day shifts (8.00-16.00 hours) during weekdays	RNs on their day off for each department (if there is nobody available in those departments, they can ask for help from nurses who have finished a night shift or are waiting for evening shift)*. If nobody is available, a nurse whose is working on the day shift will be perform the transfer.	As COM1 hospital*	As COM1 except those who can be asked to help are counselling/nosocomial infection (NI) nurses or EMT
Personnel who are responsible for transferring on an evening shift and night shift during weekdays and public holidays	RNs on their day off of each department	As COM1 hospital	As COM1 hospital

Characteristics	COM1 hospital	COM2 hospital	COM3 hospital
Number of transfer nurses per rota	One person per 8-hour shift	As COM1 hospital	Two people stand by for 16-hour shifts during weekdays and 24-hour shift during weekdays and public holidays
responsible persons	Most nurses following the transfer shift	Seven people were in active roles in the transfer shift (volunteering to transfer) **	Most nurses following the transfer shift
If there needs to be a second transfer nurse or extra transfer nurses	A nurse, whoever could be allocated (maybe a person on her day off/finished her regular shift/waiting for her next shift)***	As COM1 hospital***	As COM1 hospital***
The number of transfer shifts per person per month	2-3shifts (not including call for extra work)	8-10 shifts (not including call for extra work)	2-4 shifts (not including call for extra work)
Payment (1 GBP = 50 baht)	600 baht (approximately GBP12) per 8-hour shift	300 baht (approximately GBP6) per patient (maximum 600 baht per 8-hour shift)	600 baht per 16-hour shift 900 baht (approximately GBP18) per 24-hour shift

From the data in Table 11, it can be seen that personnel who have responsibility for accompanying patients from all three community hospitals are almost always registered nurses, but they come from a variety of wards with different knowledge and experience. Other members of transfer personnel may be a nurse assistants who have trained as Emergency Medical Technician-Basic (110 hours), but there is only one community hospital (COM3) with an Emergency Medical Technician-Intermediate (EMT-I) to assist in inter-hospital transfer. The number of transfer shifts per person per month, for which nurses in COM1 and COM3 take responsibility in addition to their regular working hours and overtime working hours, is approximately 3-4 shifts (excluding calls for extra work), but nurses in COM2 work 8-10 shifts (excluding calls for extra work) in cases where there is unavailability of transfer nurses during high volume of critically ill patients requiring transfer.

Further illustration is shown by the transfer rota from COM1 hospital where the head of nursing has arranged the rota by giving each department responsibility for transfer patients for one week (Table 12).

Table 12: Example of transfer nurses' rota in November 2011 at COM1 hospital

Date	Week1 Day 1-7	Week2 Day 8-14	Week3 Day 15-21	Week4 Day 22-28	(Part) Week5 Day 29-30
Responsibility	MW nurses	IPD1 nurses	IPD2 nurses	ED nurses	OPD nurses

From Table 12, it can be seen how the nurses in each department take responsibility for the transfer rota every week. There are five departments, namely maternity ward (MW), inpatient department1 (IPD1), IPD2, emergency department (ED), and outpatient department (OPD). Nurses from MW, IPD1, IPD2, and ED were rotated to transfer patients for one week each. The remaining days of each month are covered by OPD nurses because this department has a lower number staff.

The participants feel that this local policy is an improvement on the transfer system of previous years (before 2009) when each department was responsible for transferring its own patients. The following field note, from a dialogue with Malee (R1: ED nurse) and Nuchjaree (R2: the head of nursing), describes assumption of responsibility for transferring a woman with severe pre-eclampsia from COM1 to REG hospital at 11.10pm.

BE: How did you feel when you had to transfer this patient when it wasn't your transfer rota?

Nuchjaree: I'm okay with it. If I am staying in my flat and nobody is available, I can help. This is good for the patient because we can ensure that there are nursing staff go with her. If anything happens during transfer, we can help each other to sort out the problem for the patient.

Malee: I'm okay too. I understand because we have many patients needing to transfer to the regional hospital and we are short of nurses to transfer these patients. I think it is better than in the past because we can help each other to transfer patients. [Field note p.62.COM1]

It can be seen that the new policy can ensure that patients who need a transfer nurse have a transfer nurse to accompany them. This ensures that patients will be cared for when they have any adverse events during transfer, improving their safety. In addition, it can solve problems surrounding departmental shortage of transfer nurses.

In general, however, critically ill patients at community hospitals come from all departments in the community hospital e.g. the ED, the IPD, and the MW. When a patient needs to be transferred, a charge nurse will summon transfer personnel who are on the transfer shift to accompany them. To illustrate, if there is a ST-elevation myocardial infarction (STEMI) patient admitted at ED who needs to be transferred to the regional hospital and, on that day, a maternity nurse is on transfer shift, she has to accompany the STEMI patient. Thus, the critically ill patient may be accompanied by nurses who come from various departments with a variety of knowledge and skills. In this context, transfer nurses are concerned that their knowledge and skills may not match the critically ill patient's care needs. The mismatching of knowledge and skills of transfer nurses with critically ill patients' care needs may affect the quality and safety of transfer care for the patient (Pronovost et al., 2006). This creates 'lack of confidence in care' and 'work stress' for the transfer nurses (Ääri et al., 2008). These concerns will be illustrated further in section 6.3.4.

The data analysis shows that transfer nurse recruitment by sharing workload may be one strategy for recruiting transfer nurses in the hospital transfer system of a community hospital. However, I would argue that we should be concerned about the quantity and quality of transfer care when critically ill patients are transferred by nurses lacking knowledge, skill and competency match with specific care needs of patients. This issue is reflected in the voices of the nurses who 'experience fear' and 'lack of confidence in care' of patients if they have to transfer the patients who do not match their knowledge and experience. Therefore, transfer nurses should be specifically trained, qualified and certified.

6.2.3 Mentoring support

This third category, 'mentoring support,' emerged in this study as an effective way in viewing a newly registered nurse's transition process to being a transfer nurse. Kanda, the referring nurse from COM1 hospital, reflected on her experience of having to assume the responsibility of becoming a transfer nurse:

.... During the first time of escorting a patient transfer, I was so nervous. I kept telling myself what I should do. I was so scared that if anything happened, what

should I do; could I do it? Oh! I have to concentrate. In the ambulance, I tried to think about what I learnt from the classroom (when I was a nursing student); if I couldn't do anything, I should check the patient's vital signs. I think if vital signs are normal, other things won't cause any problems. I tried to think about it, and I kept monitoring the patient. [Kanda.P1.COM1]

Alan, a referring nurse from the COM3 hospital, also illustrated how he felt when learning to be a transfer nurse:

"When I was told by the head of ED that she would like me to work as a transfer nurse, I was afraid about how it would be because I had just graduated and only had training as a newly registered nurse for three months. I had no ideas about it. So, before I had to be responsible for transferring patients by myself, I asked transfer nurses on the transfer rota if I could transfer the patient with them. I then observed what they did for the patient and what information they gave to the regional hospital staff during handover of the patient. I did this a few times before I did a transfer by myself." [Alan.P4.COM3]

The experiences of Kanda and Alan reflect the feelings of uncertainty and anxiety among transfer nurses when experiencing transition from newly registered nurse to transfer nurse. They feel excitement, stress, and fear, and find the situation challenging. The strategy adopted by Kanda to manage her fear was concentration, reflection upon what she learned from her education, and monitoring of vital signs. For Alan, he learned how to care for patients by observing transfer care from experienced nurses.

It can be seen that it is common for novice nurses to feel insecure about professional ability in providing transfer care (Kaihlanen et al., 2013). A new graduate nurse requires experience to have good decision-making skills in transfer care. When there is lack of knowledge and experience they need to be supported by a mentor. Mentoring support for a newly registered nurse who is in a transition process to becoming a transfer nurse was identified in COM2 hospital.

Ladda, the referral manager from COM2 hospital, emphasised the informal mentoring for newly registered nurses who are in transition to inter-hospital transfer duties. The mentor gives guidance about how to care for patients during inter-hospital transfer and also accompanies patients:

"After they have graduated, if they stay in a flat in the hospital, and they are available or happy to be a transfer nurse with us, I will call them to talk, to train

and to orientate them. We tell them what care is required during the transfer; what they need to do in the ambulance; and how to use the equipment, something like this. During the first transfer, a mentor will work by their side. Most of the new transfer nurses spend around three months in training, but a mentor doesn't go with them every time. Just in some cases, if the patients are critically ill, we will jump into the ambulance and go with them. If the cases are simple, without complications, such as patients with anemia, a mentor won't accompany them with the patient. They may be given advice prior to the transfer, and we will let them go by themselves." [Ladda.P2COM2]

Referring nurse Chalita shared her experience when transferring a patient for the first time with a mentor:

He was a multi-trauma patient with shock. He was stable, but I was still afraid. However, Pee Ladda (mentor's name) accompanied the patient with me. My fear was relieved because I had an experienced nurse for consultation if there was an unexpected event during the transfer. [Chalita.P3COM2]

Similar to Kanda and Alan's experiences of being transfer nurses for the first time, Chalita was afraid and lacked confidence to care for the critically ill patient. However, mentoring helped her to deal with the challenges during the transition process. To achieve confidence and professional growth, mentoring is used by many new nurse programmes to support new graduates to handle the challenges throughout the transition process (Glass and Walter, 2000, Hoffart et al., 2011, Kaihlanen et al., 2013).

Mentoring is defined as "the process of transmitting values, skills, and knowledge; providing networking opportunities; teaching needed information; and providing a sounding board for novices learning to negotiate a new role or new environment" (Banister and Gennaro, 2012, p. 197). Green and Jackson (2014) state that mentoring can be formal or informal. Formal mentoring is conducted in a structured and formalised relationship; these relationships are often raised at the request of employers, while informal mentoring is characterised as an often spontaneous relationship between two people based on a wish to work together. Commonly, the more experienced person is a mentor, and the less experienced is a mentee. Through the mentoring process, an senior professional nurse helps a junior or new professional learn to adopt a new role or environment, and in the process transmits, skills, and knowledge (Banister and Gennaro, 2012).

The mentoring process offers mutual interaction between mentors and mentees. The previous literature reveals that mentees' experience will decrease anxiety and stress, enhanced self-confidence and enthusiasm, increased socialisation with colleagues if they receive support, empathy, encouragement, and assistance with problem-solving from mentors. The process of mentoring offers the mentor an opportunity to strengthen their leadership skills, enhance self-worth, foster collegiality, and raise a sense of personal satisfaction (Ehrich et al., 2002, Dorsey and Baker, 2004, Kaihlanen et al., 2013).

However, mentoring can have adverse outcomes if some people are not well suited to being mentors. They are called 'toxic mentors' who are avoiders, dumpers, blockers, and destroyers/criticisers of mentees (Darling, 1985). Also, Ehrich et al. (2002) state that the extra time that mentorship takes is an adverse outcome noted by mentors and mentees. Also, mentors identify lack of training, personality mismatches, conflicting roles in terms of advice and assessment, and extra responsibility associated with the mentoring role. Mentees listed the difficulties of having critical mentors, of being constantly observed, and encountering lack of feedback as additional negative outcomes. The adverse outcomes of mentoring are demonstrated by Ladda:

"I am afraid the formal mentoring might put more stress upon the mentors. In fact, they are afraid that they might suggest incorrectly or cannot teach a new junior nurse adequately because they have learned this job by practice. [Ladda.P2COM2]"

From data analysis, mentoring seems to be effective in ensuring safety and quality of transfer care in clinical practice. Considering the possible negative outcomes of mentoring, I would suggest that the mentoring system for inter-hospital transfer care needs to be supported by structured organisation, such as training, role definition, and job responsibility of mentors.

6.2.4 Providing a blame-free culture

The last category is 'providing a blame-free culture' which emerged from data representing a positive work environment being a core element of safety culture, and

having an impact on patient safety and quality improvement in healthcare organisations.

It is obvious in one community hospital – COM2 hospital – that a blame-free environment in transfer nurse practices and document recording are positive features that generate comfort and security in transfer nurses. This is important if there are errors or adverse events while transfer nurses work in the ambulance as demonstrated by Chalita:

“I have to be brave to acknowledge errors or complaints about our care, from receiving staff of the regional hospital, on the transfer document record because the head of ED said there is to be no judgement and no blame directed to the transfer nurse who is responsible for taking care of the patient. This document is used for quality of transfer improvement. Every week, the referral manager collects the data and summary issues of transfer care found for the head of ED and for discussion with the transfer team in order to address problems and prevent repetition of incidents.” [Chalita.P3COM2]

From Chalita’s testimony, error and adverse events reports, which remain blame-free, contribute to the positive quality improvement culture of transfer nurses. Incident reporting remains primary practice and exhibits moral importance of disclosing what occurred in an adverse event - and to promoting patient safety (Johnstone and Kanitsaki, 2006, Burkoski, 2007). Findings also suggest that, when transfer nurses recognise that the work environment supports their professional practice, they are more likely to engage in their practice to ensure patient safety. This apparently contradictory reflection on blame-free and safety culture by Leape et al. (1998, p. 1447) is worthy of consideration:

Join us in converting a culture of blame that hides information about risk and error into a culture of safety that flushes information out and enables us to prevent or quickly recover from mistakes before they become patient injuries.

This statement from Leape et al. (1998) describes change in organisational culture. It reflects a deeply held belief and commitment to change in the way blame is handled when errors occur. Also, safety is approached so that it is equally felt that culture has to change. Organisational safety culture is claimed to be important for patient safety (Sammer et al., 2010, Vincent, 2010). However, the term safety culture is used in many

different ways in healthcare. It is perhaps most concisely expressed as ‘the way we do things round here’ (Godfrey, 2001, Hughes, et al, 2012, Grissinger, 2014). But as little consideration is focused on common definitions of safety culture, Halligan and Zecevic (2011) note that most studies use the definition of safety culture given by the Health and Safety Commission of Great Britain (Health and Safety Commision, 1993, p. 23) which states:

The safety culture of an organisation is the product of individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation’s health and safety programmes. Organisations with a positive safety culture are characterised by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures.

A comprehensive review by Sammer et al. (2010) identified seven subcultures of patient safety: leadership, teamwork, evidence-based, communication, learning, just, and patient-centred. They also suggested that safety culture is a complex phenomenon, but is not clearly understood by hospital leaders. Thus, it is difficult to operationalise. Vincent (2010) implies that in safety culture the people should maintain good standards of practice, but also get ready for the possibility of the revelation of other facets of safety culture, or rather their absence. He argues that the difficulty is to resolve issues in cases where no one recognises that anything is wrong. It is also important to understand that safety culture is one aspect of the organisational culture (Godfrey, 2001, Weaver et al., 2013).

As described in the background to the study (see Chapter One), there is only anecdotal knowledge to suggest that there has been an increase in complaints from the receiving staff at the regional hospital. Indeed, medical errors and adverse events in healthcare are common, and most errors are preventable (Institute of Medicine, 2000, Leape, 2002). Research findings suggest under-reporting of incidents or adverse events in healthcare is an acknowledged problem. For staff, it is difficult for them to determine hospital expectations for reporting incidents that are linked to fear of punishment or retribution (Levinson, 2012, Hanna, 2014). Department of Health (2000b, p. 77) states that:

There is too often a blame culture. When things go wrong, the response is to seek one or two individuals to blame, who may then be subject to disciplinary measures or professional censure. That is not to say that in some circumstances individuals should not be held to account, but as the predominant approach this acts as a significant deterrent to the reporting of adverse events and near misses. It also encourages serious underestimation of the extent to which problems are due, not to individuals, but to the systems in which they operate.

Moreover, intemperate blame prevents recognition of error and obstructs learning and effective action to improve safety (Vincent, 2010). If errors are unreported, they may result in avoidable harm to patients, an undermining of the nurse–patient trust relationship or an undermining of the reputation of the profession (Johnstone and Kanitsaki, 2006). The International Council of Nurses (ICN) (2012) recommends that nurses have a responsibility to report patient safety in all aspects of their work, including reporting adverse events promptly to the appropriate authority. Therefore, a blame-free and event reporting system is essential for developing interventions to improve patient safety and quality of transfer care.

Therefore, I would argue that nursing leadership in creating conditions for work engagement, safe work, and high quality of transfer care is a key role. Strong nursing leadership is an important factor in creating a positive work environment and a culture of safety (Haxby et al., 2010). Leadership in all its forms is very important in operating safe working conditions, which are particularly critical in high-risk activities. The leader influences good attitudes and behaviour towards safety in the work place, such as compliance with safety-related rules and procedures, and are key to the effective management of emergencies (Vincent, 2010).

6.3 Barrier factors influencing safe transfer care

The second main theme, ‘barrier factors influencing safe transfer care,’ emerged as primary contextual factors from referring and receiving nurses’ experiences that represent obstacles or impediments to safe transfer care. Impediments relate directly to personnel, technology and tools, working environment in transfer care, and handover processes that must be taken into account because of their influence on the quality of transfer care.

Under this second main theme, I discuss five categories. The category of shortages in the nursing workforce and their impact is discussed in section 6.3.1. This first category describes the perception of transfer nurses on shortages among nursing staff, and their impact on quality of transfer care such as nurse fatigue and sickness. The second category, section 6.3.2, is haphazard training. This examines absence of specific training courses for transfer nurses in community hospitals. The third category, section 6.3.3, is inadequate advanced technical resources such as essential transfer equipment and monitoring support of transfer care in community hospital settings. The fourth category, section 6.3.4, is feelings of fear and insecurity. It explores these emotions arising due to the knowledge and skills of transfer nurses mismatching the needs of critically ill patients, and having to work in ambulances travelling at high speed. The last category, work constraints on communication during handover, is described in section 6.3.5. This final category illustrates the working environments that have an impact on effective handover process.

6.3.1 Shortages in the nursing workforce and their impact

As illustrated in Chapter Two, there is an inadequate number of nursing staff in the healthcare system in Thailand. This has led to shortage of transfer nurses in all community hospitals. The following field notes, from dialogue with Namjai, a referring nurse from COM2 hospital, reveal transfer nurses' perceptions of the impact of insufficient transfer nurses:

This was my second round in this morning shift to observe the transfer care of two referring nurses from COM2 to REG hospital. Two referring nurses and I transferred a thirteen-year-old girl who has sustained a severe head injury from a motorcycle accident (MCA).

After we completed the transfer at REG hospital, we discussed it during our return to COM2 hospital:

“There were inadequate transfer nurses. Not many people want to transfer patients if it isn't their shift. Some people want to give their shifts to someone else if there is someone available because the regular shift and overtime has made us too tired... I was a transfer nurse this morning (8am-4pm). This case was the second patient that I transferred today. I was okay during the first case, but the second case made me tired because the patient was critically ill and in an unstable condition. Last night, I worked the evening shift, but I left my ward

around 2.30am after I completed the patients' files. I then had to work the evening shift today (4pm-12am)."

Namjai arrived at the hospital at 3.20pm and needed to take over in the maternity ward by 3.45pm [Field notes p. 82.COM2]

Namjai's comments reflect the view that there are an inadequate number of nurses in the community hospitals and this issue impacts on transfer nurse recruitment. She focused on overtime work or extended working hours in their departments/wards and its effect of creating 'work load' and 'fatigue' among nurses in community hospitals. The impact of shortage of transfer nurses will be discussed further in sections 6.3.1.1 and 6.3.1.2.

Testimony from Supaporn, a referring nurse who is a maternity nurse from COM1 hospital, demonstrates her experience related to the shortage to transfer nurses:

Supaporn: "I remembered accompanying two patients at the same time. One was an AMI (acute myocardial infarction) patient laying on this side, and the other one had GIB (gastrointestinal bleeding) with hematemesis and was laid opposite...."

BE: "How many nurses accompanied these two patients because you had one MI patient and one GIB patient?"

Supaporn: "Two nurses. We looked after one patient per person."

BE: "The MI patient was a fast track patient, wasn't he?"

Supaporn: "Yes, he was. We didn't have enough nursing staff at that time. At the beginning, the patient with GIB had departed already with my colleague who was on a transfer rota, but around five minutes after departure the ambulance was called back to the hospital to pick up the AMI patient. I was assigned to care for the AMI patient, and my colleague looked after her GIB patient; but we helped each other to take care of the patients. I remember on that day, after I had finished transferring the patients in the evening shift, I had to come back to do a night shift at ED (emergency department) as well." [Supaporn.P2COM1]

Supaporn's example illustrates not only the issue of an inadequate number of transfer nurses associated with a high volume of acutely and critically ill patients making it necessary to transfer two patients in one ambulance, but it also reflects two further problems. First, it demonstrates that some transfer nurses are overworked. They have to undertake two jobs on the same day, one or two shifts in their own department, and another shift on inter-hospital transfer care (see transfer rota in Appendix P). Second,

transporting two patients in one ambulance is performed because of an inadequate number of transfer nurses.

However, Supaporn's experience is uncommon and not within regional or local policy as a means of addressing the issue described. The necessity of keeping patients safe when there is a high volume of transferring patients and shortage of transfer nurses is recognised. In this situation, it is necessary to reduce the time delay for patients who need reperfusion treatment. This treatment needs to take place in the 'golden hour' or 'a window of opportunity' (Kipshidze et al., 2014), which is the time window during which the patient has the optimum chance of survival as an incident casualty. The nature of transfer nurses' intervention can be modified according to a patient's condition and be influenced by their perceptions of the limitations of their hospital's ability to implement effective care; it is based on the scope of their own autonomy and decision-making power about what is the best to keep patient safe. However, it can be seen that one patient's characteristics and condition may have a negative effect on another patient as Supaporn commented:

... Then, the patient with GIB with abdominal pain was aggressive. I told him that "... the man beside you, he has cardiac disease. If you make a noise, he may get worse." After that, he pulled the oxygen cannula off and tried to remove the IV fluid. So, I had to tell him that "We are trying to help you. If you take everything off, then your symptoms will get worse. Who will be able to help you, because the ambulance doesn't have all the medicine and equipment that the hospital has?" He then kept quiet and was subdued until arrival at REG hospital. After he relaxed, I felt much better. Because he had hematemesis, he had low blood pressure as well, which meant I had to load IV fluid for him. I felt very good that nothing happened to him because it wasn't easy to open the IV fluid line in the ambulance." [Supaporn.P2COM1]

From Supaporn's experience, if any deterioration occurs with patients during transfer, it may increase the difficulty of care management by transfer nurses due to limited personnel and facilities support in the ambulance. Hence, it can be seen that transfer nurses work under pressure associated with the complexities of acutely and critically ill patients and inadequate nursing staff support.

The following subsections illustrate the impact of shortages in the nursing workforce, work overload, nurse fatigue, and motion sickness among nurses from the three community hospitals:

6.3.1.1 Work overload

The first impact from shortage of transfer nurses is ‘work overload.’ Transfer document reviews from the rotation of ED nurses in the COM hospitals in December 2012 (see Appendix P) highlighted the high workload from mandatory overtime in nurse staffing in all three community hospital. The ED nurses in COM1 hospital had overtime working hours of between 17-18 shifts per month (136-144 hours per month or 34-36 hours per week); the rotation schedule of ED nurses from the COM2 hospital shows that ED nurses had 10-14 overtime shifts per month (80-112 hours per month or 20-28 hours per week); and the ED nurses in COM3 hospital had 15-17 shifts per month (120-136 hours per month or 30-34 hours per week). This highlights that some community nurses work nearly double the general standard working hours (5 shifts) per week.

The transfer nurses described their working hours:

“We have overtime working hours of approximately 17-18 shifts per month, and it will be higher if, during a month, someone is on maternity leave.”
[Kanda.P1.COM1]

“In general, we have 10-14 overtime working hours per month”
[Ladda.P2.COM2]

“ED nurses have 15-17 overtime working hours per month.”
[Niramom.P3.COM3]

From an examination of the documentation and interview transcripts, it is clear that nurses have work overload. This study is consistent with the investigation of Nantasupawat et al. (2014), which found that community nurses across Thailand work approximately 55 hours per week on average, or the equivalent of 7 shifts per week. Also, in June and July 2012, Supamanee et al. (2013) studied the extended work hours of registered nurses in community hospitals in the northern part of Thailand. They found that nurses who had working hours of more than 40 hours per week had extended hours of work of between 8.82 and 19.34 hours per day with an average of 14 hours per day. The consequence of mandatory overtime of nurses in each department is not

only the effect of overwork and nurse fatigue in their departments, but it also has an impact on the quality of care associated with fatigue when those who work as a transfer nurse on their day off, or are called between shifts for extra work to transfer critically ill patients.

In Thailand, nursing is a professional career that is protected by the Labour Protection Act BE.2541 (revised B.E.2553) (Labour Ministry, 2010), but it is considered different from other careers in terms of regular daily working hours. The employer and employee may agree to define regular working hours in any one day; however, the total hours in one week should not exceed 48 hours per week. When there is shortage of nurses, some hospitals require their nurses to work mandatory overtime, such as working 16 hours a day for at least seven days per month, including working during the night (Thailand Nursing and Midwifery Council, 2013). Although nurses complained about their heavy workload, they generally accept overtime work to ensure continuation of the service, and their colleagues usually have a similarly heavy workload. In addition, mandatory overtime in these three community hospitals is paid as overtime. Therefore, there are some nurses willing to work mandatory and voluntary overtime to supplement their income. Bae (2012), in a nursing overtime study, found that the majority of nurses who worked overtime said they worked overtime in order to make money, and a minority of nurses reported that overtime was required as part of their job.

Mandatory overtime can significantly affect the number of working hours during a given week or month, and contributes to the heavy workload of nurses (Carayon and Gurses, 2008), and also to nursing fatigue (Ball et al., 2015). When comparing length of working hours with other countries (i.e. USA, UK, and the EU states) in recent years, there is a trend for some hospitals to adopt longer shifts. Normally, nurses work two shifts a day, each lasting 12-13 hours, with the opportunity to compress work into fewer days per week (generally three days instead of five a week). This characteristic of working hours not only offers improved work-life balance for nurses, but it is also provides efficiencies for the employer (e.g. reducing costs, fewer handovers and reduced overlap between shifts) (Ball et al., 2015).

The evidence illustrates long working hours significantly affect nurse injury, quality of care and patient safety (Olds and Clarke, 2010, Trinkoff et al., 2011, Stimpfel and Aiken, 2013). To date (2018), however, the issue of nursing overtime in the Thai nursing workforce context is still not limited to a stipulated maximum amount of overtime per week or month. There is no litigation over this issue of overtime legislation in the nursing workforce. In addition, laws on overtime are not enforced in the nursing workforce because nursing is recognised as one of the professional occupations habituated to staff shortages (Thailand Nursing and Midwifery Council, 2012). Long working hours have an impact on ‘nurse fatigue.’

6.3.1.2 Nurse fatigue

In this study, ‘nurse fatigue’ emerged as the consequence of long working hours in overtime working for transfer nurses because of staff shortages. Studies reveal that fatigue is subjective and is typically defined based on types of work or behaviour (Steege et al., 2015). It is often categorised into multiple dimensions, including physical fatigue, mental fatigue (cognitive fatigue), compassion fatigue, and emotional fatigue (Barker Steege and Nussbaum, 2013, Sheppard, 2015). Nurse fatigue in these findings means tiredness, lack of energy, and a feeling of exhaustion leading to impaired physical and/or cognitive ability to function to normal capacity (Rogers, 2008, Repique and Matthew, 2015).

Data from observation and transfer rotas (see Tables 17, 18 and 19 in Appendix P) illustrate that heavy workload impacts nurses who are called to perform extra work to transfer patients (see *, ** in Table 11 on page 134-135) and who volunteer to transfer patients, which affects patient safety and the quality of care.

First, fatigue in nurses who are called for extra work as transfer nurses is clarified. This group of nurses are those who are asked to transfer patients on a day shift (8.00-16.00 hours) during weekdays (see * in Table 11 on page 134), and nurses who are called to transfer patients when the transfer nurses on the rota are not available. When there is a need for a transfer nurse on the day shift, or an extra transfer nurse, to accompany critically ill patients, a charge nurse often has to plead with a nurse who is between shifts or on a day off to transfer the patient, such as a nurse who has finished

her evening/night shift, or is waiting for another shift to commence while on her day off, to assist in the inter-hospital transfer. Although nurses are tired or have not slept because of their regular work, or their overtime work, they feel that transfer shift assignments are their responsibility and accountability of providing care to save a patient's life. Thongkhum, a referring nurse from COM3 hospital, told me during observation of a handover process at the ED of REG hospital at 11.40am how he felt after completing transfer of a man with unstable atrial fibrillation.

"I was called to transfer this patient because I was in an inter-shift and no one else was available. I will go back to work on evening shift today... I feel good after this patient arrived at REG hospital without any adverse events, but I now feel sleepy and tired because I worked a night shift last night." [Field note p.17.COM3]

The comment from Thongkhum confirms nurse fatigue, a consequence of high nursing workload associated with long working hours from a regular shift and then continuing with a consecutive round of transporting critically ill patients to the regional hospital.

Second, fatigue in the volunteer nurses is explained. Flexibility at the organisational level and within a team means that a transfer nurse can give or exchange their transfer rota to another nurse if s/he is not available in their rota or feels uncomfortable to be a transfer nurse; the head of nursing must give permission. The data found in COM2 hospital showed that there was a group of nurses who 'volunteer to transfer patients.' Nurses in this group were often given a transfer shift intended for other nurses who were not available or did not want to transfer the patients. Apart from their own regular and overtime working hours in their departments, the average number of transferring shifts undertaken by volunteering nurses was eight to ten shifts a month per person (see the transfer rota of COM2 hospital in Appendix P).

When I collected data in COM2 hospital, for example, twenty-four nurses were responsible for the transfer shift, but the total number of nurses who took an active role on the rota was seven people a month. There were four nurses from the emergency department, two nurses from the maternity ward and another from the inpatient department. Three of the nurses have five to ten years experience in nursing practice, and the others have two years experience. The reason for the volunteer nurses taking

overtime work is because the transfer shift provides an opportunity to earn more income. It is convenient for them because they live in the staff flats in the hospital and the journey time to attend for duty is around 20-30 minutes for assignments to transfer patients from COM2 hospital to REG hospital. However, this implies that this practice does not have critically ill patients' care need as its primary focus, rather it may be nursing staff's wish for paid overtime or they are money-driven to volunteer. Also, there is the negative impact arising long working hours on their ability to perform high-quality work and on the volunteer nurses' well-being. The following field note comes from Chalita, one of the volunteer transfer nurses from COM2 hospital during the time she and her colleague transferred a thirteen-year-old girl who was unconscious after a motorcycle accident.

... Around 5 minutes after departure, R2 said: "I feel sick." Her face looked pale. "Are you okay?" I asked her. "Yes, I am" she replied. "Please let me know if you need help," I told her. "Okay," R2 said. "Today I felt more tired than usual because I had just finished the night shift then I was called to accompany the patient, and I didn't have time to have breakfast. It makes me sick when I have no sleep and I don't eat. Also, it makes me worse if the patients vomit in the ambulance. I remember that I even got hypoglycaemia once. I felt like I was fainting while I cared for the patient, but I tried to push myself to keep going." R2 told me that after the transfer finished, Chalita asked me to sleep during return to COM2 hospital. [Field notes pp.80-81.COM2]

The extract captured from Chalita's experience illustrates how sickness or fainting can impact on a transfer nurse's health and performance of transfer care. However, she attempt to normalise her fatigue. She also acknowledged her well-being, but at the same time she reassured herself that everything seemed to be under control. Flin et al. (2006), studying 352 surgical teams members (138 consultant surgeons, 93 trainee surgeons and 121 theatre nurses) from 17 hospitals in Scotland, found that 79% of surgeons and 73% of nurses agreed that they were less effective when stressed or tired, but 52% of surgeons and 63% of nurses still believed that "even when I'm tired, I perform effectively during critical phases of operations" (p.148).

When considering fatigue and sickness experienced by transfer nurse during transfer, it ultimately places patient and nurse safety at risk due to slower response time, greater risk of making errors, and inability to perform as normal in a variety of psychomotor tasks. A study with forty-one Australian nurses by Dorrian et al. (2008) studied the relationship

between sleep, sleepiness, stress, errors, near errors and observed errors (made by others) and they found that struggling to remain awake at work and stress, are the primary predictors of errors. In turn, predictors of struggling to remain awake at work are exhaustion, hours of sleep in the preceding 24 hours, and shift length. The results also showed that struggling to remain awake at work, exhaustion, and high number of consecutive shifts are main predictors of extreme drowsiness and near accidents, including during commuting to and from work.

Regardless of the number of working hours, I would argue that transfer nurses have to think about an ethical responsibility of giving consideration to their exhaustion before accepting an assignment outside regular working hours. Transfer nurses may suggest that they are fully aware of the consequences of their voluntary action, yet they appear to disregard the significance of such consequences. Therefore, it may further suggest that they genuinely feel that their priority is safe care in terms of both patients and healthcare personnel.

The head of nursing is responsible for facilitating healthy work schedules for transfer nurses, including launching staffing policies and processes that maintain enough staff to provide quality care, and that recognise the rights and obligations of transfer nurses to refuse an assignment if fatigued (American Nurses Association, 2006b, 2014). Nonetheless, increased work demands in transfer care are also faced by volunteers and result in the same fatigue and sickness that is experienced by transfer nurses. In the volunteer nurse group, two shared their view that:

“The head of nursing and the head of ED nurses of COM2 hospital monitor the situation closely and might restrict giving assignments or change the transfer rota for volunteer transfer nurses.” [Ladda.P2COM2; Chalita.P3COM2]

At present (2018), when a member of the volunteer transfer nurses’ group moves to work in another hospital, the head of nursing restricts other volunteers from taking on extra work in the transfer rota. This decision is consistent with the research reports by Olds and Clarke (2010) and Bae (2012), who found that voluntary overtime negatively impacts nurses and gives rise to medical errors. It is important for nurses who are fatigued to take time off to rest and recover their health. Lack of recovery time may affect their ability to practice. Geiger-Brown and Trinkoff (2010) found that nurses

working long hours in continuous shifts had, on average, only 5.5 hours of sleep between shifts. Another factor affecting inadequate sleep in nursing staff is shift work having negative consequences for the circadian rhythm, resulting in disturbed circadian sleep and alerting cycles, impacting daytime sleep, and causing excessive sleepiness during the work shift (Åkerstedt, 2003, Krystal, 2012, Wright et al., 2013).

Interview testimony from Sukhum, who worked in the OPD, and temporarily worked in the ED, of COM3 hospital, illustrates the impact of long working hours on transfer shifts on nursing performance on the regular shift after he had finished transferring patients:

Sukhum: "I had experienced four consecutive rounds of patients to transfer to the regional hospital when I was on the 24-hour shift of the transfer shift. I was so tired."

BE: "Was there any impact from this tiredness?"

Sukhum: "Yes, there was. It affected my effectiveness of working on another regular shift because I felt like loss of memory and concentration. I felt sleepy. It was lucky that errors did not occur." [Sukhum.P2COM3]

Note: The return journey for one round trip from COM3 hospital to REG hospital was three to three and a half hours.

As can be seen from the above account, Sukhum was caught up in carrying out his duty as mandated, and yet had to deal with his own general well-being. This pattern of work perpetuates the fatigue cycle, despite the fact that nurses need to have the right concentration, judgment and decision-making ability, and quick response times, particularly when emergency or critical situations occur. Decrease in attentiveness, memory, or coordination may affect nursing practice and lead to errors (Arimura et al., 2010). The studies by Olds and Clarke (2010) and Bae (2013) show characteristics similar to my participants. These two studies found that overtime working has been associated with adverse quality because of cumulative fatigue, lack of rest and adverse working environments.

The consequences of staff shortage due to extended hours, shift patterns, fatigue and sleeplessness is a vicious cycle in nursing staff and it adversely affects patient safety and quality of care. Research demonstrates that nurse fatigue results in decreased nursing performance, lack of concentration, reduced decision-making ability and skill

anticipation, mood changes, and ineffective communication (Gaba and Howard, 2002, Hughes and Rogers, 2004, Rogers, 2008). Studies have shown that accident rates increase when nurses work extended hours (Rogers et al., 2004, Bae, 2013). Geiger-Brown et al. (2012) indicate that long working hours are associated with fatigue and decreased levels of alertness, potentially resulting in more adverse events. A study by Griffiths et al. (2014) found that the chances of making an error were significantly increased when work shifts were longer than twelve hours. A research survey of nurses on acute general hospital wards in the EU by Ball et al. (2015) found that nurses who worked both longer shifts and overtime were significantly associated with lower quality of care, worse patient safety reports and care shortcomings compared with nurses working eight hours or less. Recent research based on a survey of 2,084 registered nurses working in 94 community hospitals in Thailand found that almost one third of nurses reported high emotional exhaustion, which is characterised of nurse burnout. The findings also indicate that nurse burnout is associated with increased odds of reporting negative quality of care (2.63 times), and increased reporting of medication errors and infections (1.47 and 1.32 times, respectively) (Nantsupawat et al., 2016). Furthermore, working conditions connected to overwork and job stress are primary factors that negatively affect nursing job satisfaction and, as a result, contribute to high turnover and the nursing shortage (Duffield and O'Brien-Pallas, 2003, Lu et al., 2012).

On the other hand, findings can imply that, apart from the fatigue arising from volunteering for the transfer nurses' group, experience from giving care during accompanying critically ill patient increases nurses' skills and confidence in clinical practice. This experience can develop competency in a transfer nurse as Suda, one of volunteer transfer nurses who has worked on this duty for two years and nine months, showed through increased confidence as a result of her frequent transfer of critically ill patients:

"....I have now accompanied patients many times. Hence, I have more experience in transferring patients and that has given me more confidence in caring for patients with critical illnesses." [Suda.P1.COM2]

From this account, Suda clearly recognised the value of gaining experience and enhancing her competencies in transfer care resulting from frequent transfer of patients. Suda's experience is supported by Benner et al. (2009) who state that two years into practice, nurses' performance has typically reached a high level of competence. Through experience, nurses develop competence in handling familiar situations. Also, the ability to recognise a scenario as a particular kind of clinical situation is experientially learned. Even Suda recognised her own fatigue and how this may influence safe transfer care, but she did not address her own general well-being needs.

Apart from fatigue, it is interesting that all referring nurses complained about 'motion sickness' that they personally experienced, or witnessed in their colleagues, during transfer of critically ill patients to the regional hospital - in particular when they had had inadequate sleep combined with the vibration and acceleration felt while working in the ambulance.

6.3.1.3 Motion sickness

'Motion sickness' is a particular consequence of work overload in transfer nurses, which is sickness encountered while working in a moving vehicle. Field notes were taken during transfer care with two transfer nurses. Both were IPD nurses from a transfer rota (R1 and R2) who cared for a male patient experiencing fluctuating levels of consciousness en route to the REG hospital:

While observing transfer care, I witnessed a male patient age 52 years with fluctuating levels of consciousness at ED and in the ambulance from around 10.15pm to 00.30 am with two transfer nurses. The leader in the ambulance was R1 nurse. Around 15 minutes after departure, R1's face became pale and she confided, "I do not feel good, I feel sick." [Field note p.48.COM1]

Referring nurses explained that additional factors that may have contributed to the occurrence of motion sickness, included sleeplessness, inadequate ventilation and an empty stomach:

"From my experience, when I finished my evening shift and I then had to transfer patients to the night shift, I would feel dizzy and nauseous around 2 am." [Maliwan.P3COM1]

Sookjai illustrated another example:

“The cause of us experiencing motion sickness was because the new ambulance was not ventilated enough and we were sleep deprived or we had not eaten; those circumstances usually make us sick. If we had motion sickness during the transfer, we couldn’t care for the patient to our full ability because we felt dizzy and nauseous.” [Sookjai.P1.COM3]

Motion sickness results in symptoms such as nausea, pallor (pale), sweating, malaise, increased salivation, drowsiness, and stomach discomfort along with dizziness and vomiting (Murdin et al., 2011). Murdin et al. (2011) state that motion sickness may have a significant effect on occupational activity for some people e.g. emergency medical staff, airline pilots. Some of them report work-related problems due to motion sickness. However, few investigations have analysed motion sickness in health care personnel (i.e. transfer nurses, paramedics), the impact on them, and on quality of care or patient safety. Participants’ experience implies that motion sickness in transfer nurses not only has an impact on the nurses, but also might affect patient care capabilities during the transfer. Sukhum, one of the referral nurses, gave his view on this issue from the time when he was a charge nurse during transfer of a critically ill patient:

“A staff member’s motion sickness significantly affected the quality of care. The ability of care for the patients decreased quite a lot because the staff member had vertigo, dizziness and vomiting. Perhaps they could not do any procedures because when they did, they had to move their body. It would result in dizziness. So, it seemed like we lost one person who should take care of the patient.” [Sukhum.P2COM3]

Motion sickness involves a reduction in cognitive functions, demonstrated by low performance on different psychomotor tasks (Buyuklu et al., 2009). This motion sickness leads to balance problems or vertigo (Murdin et al., 2011). Such sickness can affect an individual’s recreation, employment, and personal safety, and can occur within minutes of experiencing motion; it can last for several hours after the motion ceases (Brainard and Gresham, 2014). The pathogenesis of motion sickness is not clearly understood, but the sufferer does not adapt to motion stimuli and, in particular, is affected by intersensory perceptual incongruences in the visual sense, inner ear (vestibular system), and the body (somatosensory system) (Buyuklu et al., 2009).

Motion sickness is a common syndrome that occurs in healthy people upon exposure to certain types of motion (Brainard and Gresham, 2014, Matsangas et al., 2014), and in particular it has an effect on the performance of nurses on duty in an ambulance, especially in the case of severe motion sickness. Affected nurses cannot perform any intervention in ambulances without dizziness, nausea and vomiting. Matsangas et al. (2014) found that cognitive multitasking performance, and the cognitive effort focused on performing a task, decline even when motion sickness is mild. They state that motion sickness acts as a stressor or a distraction of cognitive performance that is important for transfer nurses when transferring critically ill patients as narrated by Sukhum. Therefore, it is difficult to focus attention on carrying out a task/procedure in the case of a transfer nurse who is experiencing motion sickness.

Data analysis shows that the majority of the participants expected to be able to carry out their duties as safely as possible, despite factors impacting their general well-being, such as indicated by heavy-workload and staff shortages within the nursing profession. I would argue that professional nursing organisations need to consider pressing legislators to address overtime hours and regulations governing nurses' overtime in order to protect nurses and to ensure quality of care and patient safety.

6.3.2 Haphazard training

The category 'haphazard training' arises through there being no specific training for any of the transfer nurses' groups in the community hospitals. Public community hospitals have been challenged for lacking a knowledge base and skills, including special training for transfer nurses. The consequence of this can affect patient safety and quality of transfer care.

This has been emphasised in the inter-hospital transfer system in Thailand's associated institutes such as the Ministry of Public Health and the National Institute for Emergency Medicine (NIEM) (2008). Inter-hospital transfer is an integral part of emergency practice and is necessary for accessing specialist care (Gillman et al., 2013). The transfer care system in community hospital settings in Thailand, in terms of quality improvement and quality assurance, is the responsibility of the head of the

emergency department or a senior member of the nursing staff in the emergency department, although transfer personnel do not only come from the emergency department, the transfer system needing to have assistance from other nurses in the hospitals. However, there is no special training for transfer nurses' groups, as highlighted by Thantawan:

“[A]part from ACLS training (advanced cardiac life support) for all new registered nurses, there are other seminars/workshops, such as the pre-hospital care course provided by the NIEM; complicated obstetric care and neonatal care provided by the Province Public Health Officer and the regional hospital, but this course is operated for representative nurses in community hospitals who are working in the departments/wards involved directly with the training. For example, the trainees are a couple of nursing staff from the ED or the IPD if there is a workshop about the care of patients undergoing acute myocardial infarction, or trainees who are maternity nurses if there is a training course about complex obstetric care.” [Thantawan.P4.COM2]

This excerpt illustrates that all transfer nurses who take responsibility for transferring critically ill patients have no special training. Any transfer nurse has opportunities to care for critically ill patients from any department/ward. Interview testimony from all heads of ED nurses of the three community hospital illustrate that there is little in the way of structured training programmes organised by the regulatory body and available to nursing staff involved in the transport of critically ill patients.

Although individual nurses in community hospitals have some funding support to enable them to take part in appropriate programmes to update their knowledge annually, most of them choose to take training to update their knowledge and skills related to their specialist area. There is rarely special training for transfer nurses' groups. Apart from the pre-hospital care course, there is little in the way of structured training programmes organised by the regulatory body available for nursing staff involved in the transport of critically ill patients. Other training programmes related to transfer care are mostly organised by individual hospitals, and not all community hospitals offer programmes such as the inter-hospital transfer of emergency patients programme run by Sappasitthiprasong Hospital in Ubon Ratchathani (Boonsri, 2010).

It may be argued that there is some limited special training for inter-hospital transfer care for all transfer nurses. But this is restricted to participants who have gained

training experience in pre-hospital transfer care - this training is for taking a patient from the scene of their injuries, or onset of medical circumstances, to hospital. It has been suggested that pre-hospital transfer care training can be considered as equating to a training course for inter-hospital transfer care for the transfer nurses' group. Pranee, the head of ED of COM1 hospital, suggested that benefit could be taken from this:

I think we could use the knowledge from the pre-hospital nurse course. It is about how to take care of patients at the scene until they reach hospital. An inter-hospital transfer is similar to work outside a hospital with limited equipment and how to handle all problems arising. The situations are quite similar. I think we may adapt it for inter-hospital transfers. [Pranee.P4COM1]

Pranee therefore argues that the pre-hospital care programme can be useful for transfer nurses, and it should be part of the training for all nurses who are involved in the transfer care. Unfortunately, the trainees on this programme are only those nurses responsible for the emergency medical service (EMS) or pre-hospital care, and it is restricted to those who are assigned to an emergency department:

(...). The organiser recruited all emergency nurses to train in pre-hospital care as a priority. Although nursing staff from the inpatient department and the maternity ward must accompany patients, they didn't have a chance to train like us. Because the funding of this course was supported by the Emergency Medical Institute, they stated that the attendants should firstly be ED nurses. I think the Provincial Public Health Officer should organise this course for every nurse because all of us have to accompany patients. Every community hospital has the same problem wherever they work. They have a duty to transfer patients. [Niramon.P3.COM3]

From these interviews, it is evident that there is an issue associated with 'haphazard training,' or not having a plan of training devised by the regulatory bodies covering all transfer nurses in the context of community hospitals. This study contrasts with other countries where there has been a growth in training courses with the aim of ensuring that useful skills are taught to those who are likely to be called a short notice to transfer critically ill patients. Within the UK context, for example, where an Expert Group was established, training courses, such as the Safe Transfer and Retrieval course by the Advanced Life Support Group (ALSG) (2006) have been established. The ALSG has been developed for emergency medical and nursing staff who are involved in the

transfer of critically ill patients. This course includes a systematic approach to patient transfer by using ACCEPT– assessment, control, communication, evaluation, preparation/packaging and transport– and offers practical guidance on such matters as the use of radios, problems with medical equipment, and lifting/handling techniques. Also, management of trauma (including burns) and of medical and paediatric disorders is added to expand knowledge of specific pathophysiological processes.

6.3.3 Inadequate advanced technical resources

‘Inadequate advanced technical resources’ is the third category and examines essential transfer equipment and monitoring support in inter-hospital transfer in the community hospital settings. This category is important because there is lack of technical equipment and monitoring, especially for some categories of patient (e.g. neonatal babies, complex maternity cases). These are of concern to both the referring and receiving nurses because of the difficulties of caring for patients and monitoring adverse events and symptoms arising during the transfer.

For all public community hospitals in Thailand, there is at least one fully equipped ambulance provided by the Ministry of Public Health to service all patients. This ambulance has equipment for securing and maintaining the airways, a portable mechanical ventilator, automated external defibrillator (AED), intravenous access, an adult Sphygmomanometer, pulse oxymeter, oxygen cylinders, emergency medicines, long spinal boards and Philadelphia collars. However, the ambulance is not usually equipped with an infusion pump for intravenous fluid management; there is no electrocardiography (ECG) monitor, no foetal heart sound (FHS) Doppler, no paediatric sphygmomanometers, and no incubator for newborn babies, all of which are technical resources associated with special categories of critically ill patient, such as maternity cases, or neonates. According to Kanda, the lack availability of certain technical equipment in the ambulance has made it difficult for nurses to give a safe and high-quality care. She stated:

“... When I accompanied a full term labour pregnancy with eight centimeters of cervix dilatation, oh! there were a lot of problems! We had to monitor the foetal heart sound (FHS). However, we didn’t have an FHS Doppler on the

ambulance. We had just one machine in the hospital. It is really difficult to listen to the sound using a stethoscope, especially for premature labour while the head of a baby is still floating. It is very problematic. Since we couldn't listen to it using a stethoscope, we needed to palpate the abdomen to check the foetal movement. I asked other staff members if they could listen to the FHS in the ambulance. They replied that they couldn't hear it either. For me, I think we could hear the sound of breathing more easily than we could hear the FHS in the ambulance". [Kanda.P1COM1]

Kanda's experience illustrates how difficult it is to monitor a patient during transfer. She focused on the lack of a Foetal Doppler to facilitate the continuing assessment of the foetal heart in the labour progress in complicated maternity patients, such as premature labour during the transfer because using a stethoscope is degraded with by noise and vibration when working in a moving ambulance.

The ambulances also have no transport incubator for a neonatal baby. If there are neonatal patients with an intubated tube requiring transfer to the regional hospital, sometimes they experience adverse occurrences which affect patient safety. This issue is illustrated by a maternity nurse:

*"When we accompanied a newborn baby, we had a serious problem with tube displacement. Because an infant tube has no blow cuff (inflating cuff), **it was too difficult to care for it.** Many cases had tube displacement. Space is limited in the ambulance because the mother is lying on a stretcher, and we cannot lie the baby down on the stretcher because the clip is big. The strapped tube plaster comes loose easily when there is perspiration even though we endeavour to take care, but it still becomes displaced. I did not know how to do it. I think we should develop something to solve this problem." [Chalita.P3COM2]*

The above examples highlight the difficulty that participants experience in the provision of safe transfer care. While nurses find ways to utilise whatever equipment is available, they feel that shortcomings may jeopardise patient safety. For example, when transfer nurses escort patients who are on cardioactive medication (e.g. dopamine, adrenaline), or anticonvulsant drugs (e.g. magnesium sulphate), they have to borrow an infusion pump from another department e.g. ED, IPD or MW while doing the transfer, but sometimes the infusion pump is not available:

A Thai male, aged 52 years, unconscious with an ET tube, was accompanied by two registered nurses. He was on an NG tube, on 0.9% NSS IV drip (rate of administration not known), on Dopamine (2:1), IV drip with normal IV fluid set

(administration rate not known and no infusion pump to control IV fluid and cardio-active drug).

Dr: "What was wrong with the patient?"

RI: "Arrest (cardiac-arrest). Five minutes from Watlad (a place name) with continuous cardiac massage. This IV is the fourth bottle, on Dopa (2:1). BP was 70/50 prior to transfer. I could check pulses throughout the journey; no EKG monitor was available. This is the second time of cardiac-arrest. The first time was at the hospital with about 10 minutes of cardiac massage". [Field note p. 12; Transfer letter.Case6.COM1]

These observations make it evident that there is a risk of medical error in administering to the critically ill patients. However, if an infusion pump is not available, or it does not work, the transfer nurses will adjust the intravenous (IV) fluid rate to slow it down prior to departure in order to prevent the patient's IV fluid overloading. This method seems to be necessary to prevent medical errors during the transfer, especially when there is no infusion pump available for the transportation as highlighted in one field note:

When a patient with multiple injuries was moved in the ambulance, the EMT-I adjusted the flow rate of IV fluid to slow it down. I noticed that the IV bottle would toss around, and IV fluid dropped every time the ambulance ran on uneven road or when there was acceleration force when the ambulance negotiated a winding road. [Field note p.96.COM3]

Additionally, Maliwan commented:

"[T]he IV fluid will drop faster than normal even though we adjust the rate before departure and throughout the transfer journey. However, the amount of IV fluid would not be correct. We have an issue about medical errors sometimes, and we would be asked from the receiving staff why too much IV fluid was loaded or a patient received too much IV fluid". [Maliwan.P3COM1]

For Maliwan, it is essential that nurses must be able to adjust the IV rate, and if they failed to do so, the receiving staff may question them. This reflects the expectation held by most nurses whereby nurses are expected to minimise harm to patients in circumstances where equipment is not readily available. The type of medical errors that occur during the transfer was noticed by one referring nurses as follows:

"There is no infusion pump when nurses from community hospitals transfer patients. We think that the patients do not receive the correct medical dosage during transfer. What have we seen? We saw some drug was overloaded. For example, Dopamine (1:10) IV drip starting at 10 cc/hr. was prescribed. They used Dopamine 10 mg diluted with 100 cc solution, but when the patients

arrived, we saw there was only 50 cc left. We could calculate that it should exceed 10 cc/hr. The journey time was about one hour, and there was 100 cc of solution. If we saw the remaining Dopamine around 80 cc it was okay, but there was only 50 cc left. This meant that the patient might have received a drug overdose. Also, if you ask how we can tell this, we can tell you from the patient's condition. When they arrived at our hospital, the patient's blood pressure was very high. When we then reduced the IV fluid rate following the physician's instruction and controlled it by using an infusion pump, the patient's blood pressure decreased gradually. So, we can tell what happened". [Suthep.P3REG]

Several participants, like Suthep, described how they have witnessed the occurrence of medical errors as a result of unavailability of an infusion pump - arising because an unreliable quantity of intravenous fluid volume is administered if performed manually when transporting patients due to the acceleration forces on a fast-moving ambulance (Handy and Van Zwanenberg, 2007). This finding supports associations made in previous studies, such as Provonost et al. (2004) who point out medical errors happening during transfer periods, such as for patients from one unit to another.

Furthermore, lack of equipment and monitoring facilities during patient transfer has an bearing on the effectiveness of patient assessment, which is one significant stage of the problem-solving process. This is described by Pensri, a receiving nurse:

"[Referring nurses] lacked equipment facilities such as ECG monitors, infusion pumps. I thought this was a risk for patients and staff who accompany them. I mean, for example, in the case of post-cardiac-arrest patients who were transferred. They did not have an ECG monitor so patients' symptoms could not be assessed properly. If they had the proper equipment, nurses could detect the patients' symptoms continuously. They would know the trend of progression of patients. They then could solve problems for the patients." [Pensri.P1REG]

With deficiency in facilities, participants such as Pensri began to reflect on the legal implications due to perceived inadequate care and equipment. In a firm voice, Pensri questioned how organisational deficiencies may potentially influence a robust patient's assessment and management during the transfer. She expressed her feelings about safety, which not only concerns the patient, but also the transfer nurses who might be prosecuted. The implicit thought in this extract is the sense that she is afraid that if any seriously adverse events, i.e. loss of consciousness or cardiac arrest, occur with critically ill patients during transfer where there are inadequate equipment items and

monitors, the transfer nurses will be liable. She also reflects on organisational deficiencies operated in facility resources, which threaten critically ill patients' assessment and management during the journey to the regional hospital, generate legal implications.

Pensri also makes a clear link between the essential equipment facilities and the effectiveness of patient assessment, decision-making and problem-solving for critically ill patients. After such a patient is placed in an ambulance, the patient should be on ongoing monitoring of major organ systems (e.g. vital parameters, invasive and non-invasive blood pressure monitoring, and oxygen saturation). If the patient deteriorates during the transfer, there should be prompt recognition and treatment of these problems (Khilnani and Chhabra, 2008). I would argue that, lacking in essential equipment/monitoring is not a single factor leading to poor patient outcome. There could be varied factors such as nurses' competency, skills, knowledge, and confidence. However, equipment deficiency may contribute to errors in decision-making with potentially poor outcomes for critically ill patients. This is made worse when nurses experience fatigue and lack of sleep as mentioned in section 6.3.1.1 and 6.3.1.2.

Graham et al. (2001) identify the need for an enabling environment that includes reliable and adequate supplies, drugs, and equipment in order to be properly effective and produce good decisions. Beckman et al. (2004) discuss the use of portable equipment as necessary for the transfer of critically ill patients to monitor, provide continuous infusions and ensure ventilation. In general, however, there are many events that show equipment failure to be a common problem to occur during transport. Battery failure in monitors and/or infusion pumps was commonly reported; for example, Smith et al. (1990) found that monitor power failure would result in delivery failure of inotropes and subsequent hypotension when the infusion pump fails. Beckman et al. (2004) suggest that transporting critically ill patients requires staff with proper skills and knowledge for early detection of error and continuous monitoring in order to limit harm. This will be discussed in more detail in Chapter Seven.

6.3.4 Feelings of fear and insecurity

‘Feelings of fear and insecurity’ encapsulates the emotions of transfer nurses when they have to accompany patients whose cases they are unfamiliar with, but also feelings of insecurity when working in speeding ambulances that can be affected by other road users. Road ambulance travelling at high speed also puts the patient in jeopardy.

The foremost feeling of insecurity experienced by nurses is ‘fear and lack of confidence in care.’ These feelings are illustrated by referring nurses, such as an IPD nurse when she was assigned to transfer a critically ill maternity patient alone:

“I am an IPD nurse. I was afraid that there would be a complication for the patient in the ambulance, or if the patient gave birth in the ambulance, I couldn’t manage it. Two lives were in my hands: a mother and a baby. I felt anxious about my skills if I did something inappropriate, or if my patient deteriorated, and particularly the baby, I would feel guilty.” [Field note p.104.COM3]

Or another extract from a maternity nurse:

“... For those patients who are from other departments. Sometimes we lack confidence to transport patients because we work in the maternity ward. Some general nursing knowledge might be forgotten. Perhaps some patients’ illnesses are rare and we have minimal experience of them. This is a problem. Therefore, if we are not confident, we will consult a nurse who works in that department before departure. ... If you asked other nurses who are not maternity nurses, they would tell you that they would be afraid to transfer complicated maternity patients as well. If they have to accompany a patient alone, they feel afraid because the patient might give birth in the ambulance. They lack confidence and are frightened about how to assess and take care of a complicated birth because they have not had much experience of it. On the other hand, if we have to accompany these kinds of patients alone, we are fine. If there is a maternity nurse with them to accompany the patient, they will be happy.” [Maliwan.P3COM1]

These extracts illustrate two points. One is nurses’ confidence in working with unfamiliar patient care needs. Their lack of confidence in their own ability plagues their decision-making and generates their concern and insecurity about transferring patients (Cusson and Strange, 2008).

The second point surrounds worries about patient safety. When considering the combination of patients exhibiting complicated pathology, limited healthcare

personnel, facilities in the ambulance, and unpredictability of a patient's condition, the risk of harm to patients during the inter-hospital transfer increases. The transfer nurses are therefore concerned about patient safety and the need for all critically ill patients to receive competent care. Nurses who are not familiar with a particular patient's nursing care needs could jeopardise the patient (American Nurses Association, 2006a). An experience by a receiving nurse from REG hospital demonstrate this:

"I met one case where the referring nurse was transferring a patient with a complete heart block and the patient needed to use a temporary pacemaker. Do you know, when they arrived at the ED, the transfer nurse removed the pacemaker from the patient before we could put in a new one for him? I couldn't believe that they did something like that. I think they lacked the knowledge and experience to care for this kind of patient. This is very risky to patient safety."
[Nattha.P2 REG]

The excerpt from Sukhum below reflects lack of knowledge and skills of transfer nurses on the technical needs that can arise in caring for critically ill patients. Another experience was narrated by an OPD nurse who had to transfer a complicated maternity case. He talked about his fears when he had to deliver the eclampsia patient of her baby during transit:

"I once transferred a patient with eclampsia in pregnancy alone because at that time there was a severe shortage of transfer nurses. In fact, I didn't want to transfer her unaccompanied because I am not a maternity nurse. I was afraid to transfer her. I thought I couldn't take responsibility if any complication occurs with the mother or the baby during transfer. So, at that time, I monitored her vital signs closely along the way. While in transit, the mother started to give birth. Then I checked and the patient had a fully opened cervix. I decided to phone to consult the physician-in-charge at my hospital. He said let the patient gave birth. After that, I asked the driver to detour to a primary care unit hospital nearby. In my mind, I had to deliver the baby safely and then look after the mother. At that time, I was very afraid because I had not worked in a maternity ward for many years. There was one nurse in the primary care unit hospital, but she didn't have this experience with a complicated patient like this either. At that time, I remember I was sweating, but I tried to remember the step by step procedure for delivery of the baby with a mother who had a risk like this. I thought that, if the mother had a seizure, I would phone to consult the physician-in-charge again. Luckily for me, the baby and mother were safe."
[Sukhum.P2.COM3]

Sukhum's experience also illustrates insecurity during transfer of a critical patient that is associated with lack of confidence in his knowledge and skill. Insecurity during

transfer is one of taking responsibility, fear of making mistakes and fear of failure (Levett-Jones and FitzGerald, 2005). The feelings that arise in transfer nurses are common in those who lack specific knowledge, skills and the competency base of the care needs of critically ill patients who have complex clinical symptoms (Ääri et al., 2008, Cusson and Strange, 2008).

A further emotion of transfer nurses is ‘feeling insecure during ambulance speeding.’ They feel particular insecurity about the patient being placed in jeopardy and lack of safety while they work in a speeding vehicle as it negotiates other road users. For critically ill patients, timeliness is a major element for safe care due to the limited capacity of care level at rural community hospitals. Sometimes the transfer needs the high-speed of the ambulance to ensure the best possible chances of survival and to reduce the mortality risk to the critically ill patient. However, interview responses show that the referring nurses have greatest concern about safety when they are accompanying patients in a vehicle driven at high speed. This is illustrated by referring nurse, Supaporn:

“Throughout the local highway, from our hospital to the motorway, there are many narrow, winding sections of road. It is hard to drive on these types of roads at high speed. So, there is a high chance an accident could occur.”
[Supaporn.P2COM1]

Sookjai, a referring nurse from COM3, also shared her concern in her interview, similar to Supaporn:

“Driving, it is too fast. If we tell [the driver] that this patient needs to hurry up, then he will drive faster than normal. However, each driver has different experience and driving styles. Sometimes I feel afraid of fast driving. I am afraid that he won’t drive well. We may be struck by other vehicles, or we may crash into other vehicles. I feel very frightened because he drives very fast. Sometimes we take 45 minutes; sometimes we take 60 minutes for the journey, depending on how critical patients are. If I accompany a critically ill patient on a rainy day, I feel even more terrified. If you ask everybody whether or not they are fearful, I think everyone will say that he or she is also frightened. We don’t know what kind of accident will happen when we are on duty. It terrifies us if there is an accident even though the hospital has insurance for us; it is just a small amount of money. If we die, how about our children and our families?”
[Sookjai.P1COM3]

These extracts illustrate two issues. First, for most patients who are in a critical condition, the drivers usually drive at speed. The transfer nurses and the driver acknowledge that timing is the most important issue in the patient's life and, particularly in the case of a life-threatening or unstable condition, the ambulance driver usually is instructed to drive at high speed. Second, however, the transfer nurses vividly demonstrate fear of an accident occurring while they are working due to the speed and the road conditions (i.e. uneven road surfaces or narrow winding roads). Most ambulance accidents are usually related to weather (Hooper et al., 2010), and road and traffic conditions (Elling, 1989, Weiss et al., 2001). Poor road handling capabilities of ambulances may contribute to ambulance accidents (Weiss et al., 2001). Minor accidents and collisions involving ambulances are not uncommon, but accidents can also cause injury and death to the transfer crew, patients, and other road users including pedestrians and pedal cyclists (Intensive Care Society, 2011, National Highway Traffic Safety Administration, 2014).

Usually, a community hospital driver in Thailand is recruited from applicants who have at least a high school graduation certificate, have a driving licence and have passed the interviews conducted by the relevant hospital committee. He will be trained by a mentor who is already an ambulance driver and will work with an ambulance driver for a few weeks in order to learn the routes to the regional hospital and other destinations, how to use the siren and equipment in the ambulance, and how to move patients and support the accompanying staff during transportation. Comparing ambulance drivers of Thailand with those of other countries, such as the US and the UK, there are many differences. For example, becoming an ambulance driver in the UK involves learning some advanced driving skills. Driving at speed and driving with care at the same time are the responsibility of the ambulance drivers. To qualify to be an ambulance driver, applicants have to gain their full UK driving licence, and then they need a special type of licence issued by the Driver and Vehicle Licensing Agency (National Patient Safety Agency, 2013) and their vehicle has to meet certain requirements approved by the Vehicle Certification Agency (Vehicle Certification Agency, 2015).

The Road Traffic Regulation Act B.C. 2522 (Office of the Council of State, 1979) of

Thailand permits a vehicle that is being used for ambulance purposes to exceed the speed limits. An ambulance driver is authorised to use a flashing light and to sound a siren to overtake on roads; to stop or park the ambulance in prohibited areas; and to drive through traffic lights or prohibiting signs, but the drivers must reduce their speed as appropriate. In terms of vehicle lanes, direction of vehicles, or turning signs, the driver does not require to comply with this act or the traffic sign regulations. In practice, the driver should proceed as appropriate to the situation.

However, some situations arising from other road users cause the transfer nurses to feel frustration and insecurity during the transfer because other vehicles do not pull over and let the ambulance pass:

“Nowadays, a lorry and a coach on the highway hardly ever pull over and let us pass them. We have to drive to avoid them. When the driver tries to drive past them, the speed of the ambulance increases. If this causes a strong centrifugal force, it causes the patient to slide off the stretcher. Sometimes the centrifugal force is so strong that the IV fluid set disconnects from the bottle. This is a problem. Now it seems people are less concerned about pulling over for an ambulance compared to the past.... Sometimes another car driver is driving at only 60 (km/hr), but we have to drive at high speed because the patient is in a critical condition. Sometimes we are obstructed by two cars across both lanes. If they do not pull over for us, we can't pass them. Sometimes they drive in the right lane with slow speed, and they don't pull over for us. We have to drive in the left lane instead.... The driver has to brake until our heads shake. Umm ... there was an ambulance crash once around one year ago, and my senior nurse and one child died.” [Sukhum.P2COM3]

Another example demonstrates sequences during transfer of a 70-year-old male with congestive heart failure from COM2 hospital to the REG hospital:

At 3.15 pm, the ambulance driver drove around 110 km/hr with siren on. Another car drove past the ambulance unexpectedly, and the ambulance needed to brake suddenly. The consequence of this braking threw a transfer nurse and the patient forward to the front of the ambulance because a safety belt for the patient had been removed to measure blood pressure; fortunately nobody was injured. [Field note p.68.COM2]

Particularly highlighted is lack of awareness and responsibility on the part of other road users and their actions on the road, regardless of the presence of an ambulance when it is flashing its blue lights or activates its siren.

Moreover, the situation below illustrates the feelings of a referral nurse from COM3 hospital who was in the collision where a child died. This situation occurred around one year ago when the nurse was allocated to transfer an adult patient, who had been bitten by a snake, to the regional hospital. The collision happened at an intersection when the ambulance, which was carrying the patient with his wife and two sons (the first one was around 16-17 years old, the second was around one-year-old), drove at high speed through the intersection and suddenly another car crashed into the left side of the ambulance propelling it into a traffic island. It is evident that the collision was associated with the use of the ambulance at high-speed, other road users, and the Road Traffic Act being ignored. This experience still roused the emotions of the referral nurse who was exposed to this tragedy. He had tears in his eyes while he was talking about the child's death while on duty as a transfer nurse:

BE: "What happened after the car crashed?"

Alan: "The patient and the older son were fine, but the little boy held by his mother was flung from his mother. Then, his head hit the front of the ambulance. After the ambulance crashed, I assessed all the people. The little boy was crying, and I found a contusion at his head. I called a volunteer around that area to accompany the patient to the hospital first because he was not in immediate danger. Then, I waited for other ambulances to accompany the remaining injured people because the mother was hurt a little bit in her back. So, I stabilised her in that position until the physician and nurses from a private hospital arrived to accompany them to the hospital."

BE: "How about you at that time?"

Alan: "I was alright, hurt a little bit."

BE: "How about everyone when they were accompanied to the hospital?"

Alan: "The mother hurt her neck, but she was fine. But, the little boy was drowsy, and afterwards he died from an intracranial haemorrhage."

BE: "When this situation happened, how did you feel?"

Alan: "Umm...I couldn't explain it; it was too much. This event happened quickly, and the child was dead. I felt that what I had done was wrong? Alternatively, I had not been careful (his voice started to tremble with tears in his eyes). It made me feel fearful. I was afraid every time I had to accompany a patient. After this event happened, I didn't want to do transfers at all. I felt hurt in my heart all the time." [Alan.P4COM3]

After the collision occurred, the driver had to report the event to the police. The driver was assigned to other duties in the hospital instead of ambulance driving. Alan was

allowed to discontinue working in the transfer shift for a couple of months until he felt ready to undertake transfer services again. Due to this collision, the local policy of this community hospital changed to allow only one family member to accompany a patient in order to reduce risk to occupants if an accident happens. All drivers are now asked to avoid driving at high speed. However, if it is necessary, then they need to be more concerned both about speeding and about patient and staff safety.

From Alan's experience, it is evident that possible factors leading to an ambulance crash are issues of driver training, driving at speed, road conditions, and interference from other road users. It also can be seen that the consequence of an ambulance crash is not only the suffering of a family member who has lost their loved ones, but it significantly impacts on the suffering of transfer nurses and the job satisfaction of being a transfer nurse. The changes following this collision, however, seem not to be helpful in preventing ambulance accidents. Levick and Swanson (2005), in their study on the enhancement of the safety of emergency vehicle transport, recommend that the risks involved in the hazards of emergency medical service are using high speed, risky driving and the use of lights and sirens, intersection accidents, and not buckling safety belts, use of non-standard equipment and ambulance design. These are some of the more commonly cited hazards that have been convincingly identified. Hence, clear safety requirements and guidelines are required.

Moreover, the AAGBI (2009) and the ICS (2011) suggest that high-speed travel is not essential for the majority of patients, and that the safety passengers and other road users are important and have to be considered. Medical personnel in charge may offer advice regarding the patient's condition and the speed of travel, but they should be aware of the Road Traffic Act in such cases. Hand and Van Zwanenberg (2007) recommend that the ideal road transfer should be slow and steady. It requires steady driving with minimal braking and accelerating; if necessary, this should be with the use of blue lights and sirens to clear high traffic congestion without driving at high speed.

On other hand, I would argue that there needs to be promotion to the Thai public in terms of taking appropriate action when an emergency vehicle is flashing its blue

lights, such as to make way as quickly as possible in order to let the vehicle pass, or to move out of the way when it is safe and appropriate to do so without contravening road laws, or endangering themselves or anyone else in the vicinity.

6.3.5 Work constraints on communication during handover

‘Working environment on handover communication’ in this category refers to the contextual constraints of the hospital environment that often prevent effective handover. The hospital environment acts as a barrier to effective handover, phenomena such as ‘time pressure’ from the life-threatening condition of critically ill patients; the personalities of transfer nurses who are not ‘the primary nurse’ in the transfer; and the ‘busy working schedule’ of receiving nurses during the handover meeting in the ED.

6.3.5.1 Time pressure

Two referring nurses (both extra transfer nurses because the transfer nurses on the rota had not returned) were allocated to transfer patient X, a 64-year-old, man with multiple injuries and post-cardiac arrest. The first referring nurse (R1) arrived at ED followed by the second nurse (R2) a few minutes later. When R1 arrived at ED, the charge nurse gave the transfer letter to R1 and said, “Case post-cardiac arrest, a car crash with trees, and after CPR 23 minutes had pulses, systolic BP 140, used Adrenaline 11 amps and Adenosine 6 mg. All data already sent to the regional hospital.” During the charge nurse’s handover, R1 read the transfer letter quickly. After the charge nurse had finished the handover, the physician said, “Let’s go because the patient’s condition is not good”, and then R2 checked his blood pressure and pressed the Ambu bag. [Field note, p 38-39; Transfer letter.Case22.COM2]

Effective handover relates to the handover at the pre-transfer process. Usually, critically ill patients who are not in a stable condition, particularly those in a life threatening condition, need to be transferred from the community hospital to a regional hospital as fast as possible after pre-stabilisation. Time for the handover process may be limited and challenging to the referring nurse’s ability to receive all information from the charge nurse. She might receive the key information, such as what is a patient’s diagnosis; what he has received and the state of his level of consciousness and blood pressure. These details are confirmed by the charge nurse that all patient information has already been handed over to the receiving hospital in case the referring nurse is unsure about information for the transfer and might lose important details

during the handover meeting. The transfer nurses have been under pressure to transfer the patient immediately, and they would not have time to ask questions to clarify the details before commencing the transfer. They might expect to get full patient information by reading the transfer letter again when already in the ambulance. If they find that they have ambiguous information, they will use their mobile phones to call back to the COM hospital to ask the charge nurse for clarification.

Time pressure is most likely to be a significant factor that influences patient information given from a charge nurse/physician to transfer nurses during the pre-transfer process. If it results in too brief a handover, important information may not be passed on. In this situation, if a transfer nurse is a young nurse who has limited experience and skills, it is difficult for them to understand how the patient is and comprehend environmental elements and the evolving status of the patient's condition (Endsley and Garland, 2000). At the same time, the patient's condition could suffer if the referring nurses and the ED staff members inadvertently spend too much time for the handover (Frankel et al., 2012).

6.3.5.2 The primary nurse

The priority of the 'primary nurse' is to understand why receiving nurses cannot explain why the referring nurses have not provided full patient information. The receiving nurses may have found that the referring nurses allocated to transfer the patient did not have much detail about the patient. Some were unable to answer questions posed by the receiving medical staff. This issue leads to information loss during the handover meeting. The referring nurses' explanation is that the referring nurse is not a primary nurse in providing care for critically ill patients. Nattha explains this as follows:

*"[M]ost transfer nurses that I found weren't the primary nurse. I think the one who is the handover person should be **the primary nurse** because they know everything about the patient. It is the same as the handover between our ED and ward staff members. If the nurse who was responsible for the patient didn't phone to hand over with ward staff, the patients' data would be incomplete. In my opinion, if the owner of this case does it personally, whatever you ask them they can answer your questions."* [Nattha.P2REG]

In the above comment, the issue of primary nurse is raised in terms of who should be the person accompanying the patient to the regional hospital. A primary nurse in the receiving nurses' understanding means a nurse who is responsible for taking care of the patient before the transfer. The primary nurse is the person who organises so as to maximise continuous and comprehensive nursing care to patients by allocation of 24-hour responsibility for each patient to one nurse (Manthey, 2003, Zetta et al., 2010). The philosophy of primary nursing is that the focus of the nursing care is the patient, not the task (Jehan and Nelson, 2006). However, applying primary nursing in paediatric oncology care, one role of the primary nurse is task-oriented where the main purpose is about technical issues of treatment and care for the patient and family members (Korhonen and Kangasniemi, 2013).

The implied assumption in referral is that the primary nurse should be a transfer nurse because s/he will know the patient's condition and management since the patient's admission to the community hospital better than anyone else. This structural and logical handover would result in a positive outcome to the handover. Zetta et al. (2010), in measuring nurses' attitudes in primary nursing in intensive care units (ICU), found that primary nursing can improve continuity of care because of ICU nurses' knowledge of patients, about better communication, about their relationships with the patient and relatives, and about personal responsibility. However, the drawback of primary nursing concerns issues such as personality problems between nurses and patients, difficult to manage off-duty work and staff levels, stress and the needs of long-stay patients, too much responsibility, and staff unwilling to help with other patients. The shortcomings of primary nursing are also illustrated in the structure of transfer nurses allocation in all community hospitals (as mentioned in section 6.2.2). A severe shortage of nursing staff is the main factor that causes use of primary nursing in the allocation of transfer nurses to be unsuccessful.

To improve the quality of effective handover between referring and receiving staff, I would argue that the concept of a primary nurse might not fit with the current community hospital resources due to nursing shortages and nurses' workloads. Developing guidelines for the handover process, handover tools and training may be alternative strategies for improving handover in the Thai context.

6.3.5.3 Busy working schedule

Usually, the head of the ED nurses assigns a registered nurse to stand by to accept patients in each zone of the ED. However, when the ED is particularly busy, the referring nurses are often unaware of who will be responsible for accepting the handover from them:

Kanda: "The receiving staff often didn't tend to listen to us. Sometimes I felt they didn't listen to me and there were delays in them receiving our patients."

BE: "How did you feel when they left you waiting?"

Kanda: "I was worried that my patient might get worse while waiting because I had one experience with a stroke patient who had a cardiac arrest while waiting for the handover. I sympathize with their duties. I know they are really busy in ED. They might not have time to listen and to accept the patient, or think they could find the information by themselves. If they are busy, they will be late in receiving a case. Sometimes, I couldn't do anything except squeeze an Ambu bag (self-inflating bag) while I was waiting for them. If I don't have to hurry to return, I will wait for them to complete the handover. However, for patients in a critical condition, they should receive our patients as quickly as they can." [Kanda.P1COM1]

Kanda emphasises that referring nurses do not blame the ED staff for them having to wait to receive patients. It appears that when they arrive at the ED during an extremely busy period, that situation does not allow the ED staff to focus on accepting new admissions and the doing the handover. Although the referring nurses did not discuss details receiving nurses' delays or disinterest in accepting their patients, they spoke clearly about the need for the ED to consider them properly. From Kanda's experience, 'waiting to hand over' presented two possible safety issues. First, there was concern about the patients' condition requiring to receive the ED medical staff's attention. Second, there is worry about the consequence of time delay and how it might worsen the patients' condition.

Kanda also points out the inattention to handover details from the receiving nurses. This communication behaviour often occurs during busy times in the ED. Interviews and observations from other referring nurses support Kanda's experiences of how receiving nurses respond during handovers:

"The problem I found, such as (the receiving nurse) wasn't ready to listen to me. She looked like she was busy. While I handed over, she was working with another patient. I didn't know if she understood the information or not, but

sometimes someone called me back to ask a question so I detailed the patient's information to her again." [Sukhum.P2COM3]

A field note from COM2 hospital gives further illustration:

Upon arrival of a patient with upper gastrointestinal bleeding, the patient was moved to the yellow area. The referring nurse looked around the ED room. There were three patients in the yellow area, one critically ill patient in the red area (critical care zone) and two patients in the observation area. Four ED nurses were working beside their patients. Then the referring nurse decided to stand next to her patient waiting for someone to become available to receive the handover from her. One nurse, who was near the referring nurses said, "Let's hand over. I was held up with IV fluid insertion." Then, the referring nurse started to handover. At the same time, the ED nurse kept her eyes only on her patient. It seemed like she didn't listen to the referring nurse. After that, the referring nurse touched the arm of the ED nurse. The ED nurse, then replied that: "I am still listening to you." [Field note p.65.COM2]

Lack of eye contact during a handover meeting gives the referring nurse the message that the receiving nurse is inattentive in listening to her. It seems that the receiving nurse is ignoring the information being given. Also, the referring nurses think that time they spend in the handover may have been wasted. McFetridge et al. (2007) found similar results. The ED nurses felt that they were overlooked by ICU nurses in the handover when they transferred critically ill patients to ICU during busy periods. It was suggested that one member of the ICU nursing team could settle the patient into the unit while another could devote time to receiving the handover. Eye contact is a form of active listening and a most important non-verbal communication skill. Non-verbal communication – including facial expressions, posture, gesture, and eye contact – have an impact on effective handover. This non-verbal communication lets the informant interpret and make sense that information is being successfully exchanged (Solet et al., 2005, McCabe and Timmins, 2006). On patient safety, Frankel et al. (2012) found 'joint focus of attention' is one of the non-verbal behaviours that refers to the ability to consider information about one's own visual attention in parallel with other people's information. They suggest that joint focus of attention has the best potential for high quality and reliable handover.

Observation of the handovers suggested that ED personnel were multitasking, such as inserting intravenous lines and injecting medicine, rather than listening attentively or

maintaining eye contact with the receiving nurse when the patient information was being delivered. This process was, however, dependent on the individual nurse and on how busy the ward was in the ED during the handover meeting. This finding is similar to other findings (Bruce and Suserud, 2005, Jenkin et al., 2007, Bost et al., 2012) that state multitasking is a factor affecting effective handover because the listener is distracted. Multitasking creates higher memory load, and information loss and information errors can directly affect patient safety (Laxmisan et al., 2007).

During busy periods in the ED, verbal information is occasionally not retained or gathered in its entirety by the ED personnel, especially if there is no written material (Jenkin et al., 2007). Jenkin et al. (2007) found that the problem of handover is exacerbated if the ambulance crew need to leave the ED and information is not recorded on the patient report form. Also, time constraints and interruption during handover, such as pressure from increasing patient flow into the system, distraction from phone calls, people or other patients during handover, all contribute to a report that is rushed, and information being lost (Friesen et al., 2008, Drach-Zahavy and Hadid, 2015).

Pezzolesi et al. (2013) have pointed out that in a busy ED, teamwork and situational awareness contribute to the quality of handovers. They suggest team members' roles should be clearly identified and assigned. The positive outcome from this study on the handover process is that it can be applied to handovers in the ED. One team member could be assigned to take the role of the nurse/doctor and take charge of the referring patients and handovers. This might minimise waiting, and multitasking during handovers at busy times.

6.4 Summary

In this chapter, I identify the context within which the transfer of patients from three community hospitals to a regional hospital takes place. I have emphasised the facilitating factors' effect on safe transfer care. The factors are belief in responsibility and accountability for care and patient safety, mentoring support and providing a quality improvement culture. These include transfer nurses' recruitment by sharing the workload. However, there is discrepancy between knowledge, skills and competence of nurses from different wards when, to share workload, they are allocated to transfer

patients. I also describe how this is perceived to impact on quality and safety, and on nurses' confidence.

The findings show that nurses are overloaded with work due to a nursing shortage in community hospitals and by the high number of acute and critically ill patients who need to be transferred to the regional hospital. Work overload can particularly be seen in the transfer nurses' group results where fatigue and motion sickness are encountered. Factors interact in a triangular way. The consequence of fatigue and sickness impacts patient safety associated with low quality of care (i.e. decreased nursing performance, clinical judgement and decision making). Therefore, the nursing workload associated with extended working hours in the transfer nurses' group needs to be considered and addressed at the organisational and policy-making level.

The necessity of sharing work to provide support to transfer nurses undertaking inter-hospital transfers, shows transfer nurse personnel in community hospitals being general nurses who need to work in advanced practice that require special training and competencies. But some inexperienced and inadequately trained transfer nurses are still being used in the inter-hospital transfer of critically ill patients. It creates fear and lack of confidence in transfer care. This highlights that a policy of human resource development is not covered by operations at the community level. However, mentoring support in the transition from a general nurse to a transfer nurse seems to be effective for developing the competencies of transfer nurses. From the findings, I would argue that the roles and competencies of transfer nurses need to be explored and identified. Also, an extended role of the transfer nurse – a specialist nurse – seems to derive benefits for both patient and transfer nurses. Additionally, working with incomplete, but essential, technical resources for monitoring and management during the transfer with some special types of critically ill patient, such as maternity patients, or neonatal babies, has been found to affect the quality of transfer care. Hence, there is need for supportive management for this inadequate structure to ensure safety, both of patient and transfer personnel.

Furthermore, this chapter highlights the work constraints on handover communication. The findings demonstrate that handover during the transfer of critically ill patients is highly dynamic and complex. It is threatened by: (1) time pressure due to the severity of

the patient's condition, (2) unavailability of a primary nurse to provide care for critically ill patients, and (3) busy working schedules of the receiving staff. All these issues might result in information loss/miss between the handover process at the pre-transfer period through to the handover meeting between the referring nurses and receiving staff. Moreover, the themes (protective and barrier factors influencing safe transfer care) outlined in this chapter have also informed a "conceptual framework for quality of inter-hospital transfer care of critically ill patients in Thailand" that is highlighted in Chapter Eight on page 236.

In the following chapter, 'the provision of safe transfer care' will be examined in more detail.

Chapter Seven: The Provision of Safe Transfer Care

7.1 Introduction

As discussed in Chapter Six, many contextual factors (e.g. human elements, restricted technological equipment, and work environment) influence the quality of transfer care. These contextual factors are dynamic and complex. They are both protective, and barriers, to the quality of care during transfer of critically ill patients. Despite various barrier factors throughout the process of inter-hospital transfer, transfer nurses demonstrate their professional knowledge and practice to ensure quality and safety of care when they transfer critically ill patients. In this chapter, I examine that how transfer nurses provide the safest possible care for critically ill patients during inter-hospital transfer. However, some shared behaviour in transfer care processes could potentially represent obstacles to safe transfer care, also described in this chapter. These analytical findings are particularly useful for understanding clinical practices and some social behavioural norms of transfer nurses inherent in the quality of transfer assessment and improvement. The process of provision of quality within inter-hospital transfer care includes three main themes:

- (i) Habitual patterns in transfer care processes
- (ii) Maintaining the health condition of the patients
- (iii) Overcoming adverse events

7.2 Behavioural patterns in transfer care processes

‘Behavioural patterns in transfer processes’ is the first main theme of transfer care practice in the process of pre-transfer care, transfer and handover. This main theme may become an organisational culture in various processes of inter-hospital transfer care in any hospital. This theme affects quality and patient safety during transfer, including ineffective handover between referring nurse and receiving staff. The consequence of ineffective handover also has an impact on patient safety and where interpersonal relationships have an impact on communication ability and willingness to share information. This main theme comprises five categories. The two initial

categories illustrate habitual patterns in the pre-transfer phase and the transfer phase, and the other three categories describe habitual patterns in the handover processes.

7.2.1 Inadequate pre-transfer risk assessment and transfer nurse allocation

This first category, ‘pre-transfer risk assessment and transfer nurse allocation,’ refers to inadequate pre-transfer risk assessment and evaluation of personnel undertaking the transfer. From analysis of data, transfer nurse allocation from all three community hospitals seems to focus on the overall situation of the patients, especially critically ill patients who are intubated. Assessments of the nature of underlying illness/injury and level of risk during transfer of an individual patient are required to determine the number and competencies of transfer nurses required to accompany the patient. Often this assessment is inadequate.

When asked about local policy for transfer nurse allocation, all referral nurses stated that two transfer nurses are permitted only when a patient is intubated and/or is an acute myocardial infarction (MI) patient. Other kinds of patients (i.e. stroke, shock, or upper gastrointestinal haemorrhage (UGIH)), who are not intubated, are generally accompanied by only one transfer nurse because of a shortage of transfer nurses:

“In general, the physician will allow us to transfer the patient with two people when the patient is intubated.” [Kanda.P1.COM1]

“If the patient is intubated, we will allocate two transfer nurses to accompany the patient.” [Alan.P4.COM3]

The situation regarding transfer nurse allocation initially came to the researcher’s attention when considering data for allocation criteria. The following example is from an IPD nurse’s experience, while accompanying a patient alone, when serious incidents arose (i.e. loss of consciousness, cardiac arrest):

“In the case of the head of IPD nurses (inpatient department), the physician requested her to accompany a stroke patient alone; then her patient had a cardiac arrest nearby Macro (name of a cash and carry store). The nurse had to perform chest compression and ask the patient’s relative who was present to press an Ambu bag for the patient. If we had assessed this patient prior to transfer, we would have considered that he or she may have a risk of deterioration during transfer, or they would be not sure about it, or 50:50, so

they should have provided two nurses to accompany the patient.”
[Kanda.P1COM1]

Kanda felt insecure when transferring an acutely or critically ill patient alone although she had an intuitive grasp of the problems from her experience during the transfer:

“I felt embarrassment because I had to accompany the patient alone. (...) When I saw the patient’s condition, I thought I would certainly have to make a detour to another hospital on the way because my hospital is far away from the regional hospital. Also, the road conditions are not good. I didn’t know if it would affect the patient’s condition or not. If we can accompany patients with two people, we feel more comfortable than with one person because we can consult each other to sort out patients’ problems. If we accompany the patient alone, we don’t have anybody to consult. Sometimes we aren’t sure if we should make a detour to another hospital or not, especially in the case of junior nurses. Transferring patients alone affects decision making and patient safety significantly.”
[Kanda.P1COM1]

Kanda seemed certain that there was something wrong with the patient, or that the patient was likely to become worse during the transfer. In agreement with these findings, Robertson and Al-Haddad (2013) assert that critically ill patients normally have a risk of life-threatening deterioration due to their pathophysiological crisis. Furthermore, some critically ill patients tend to become unstable or to deteriorate with movement. Handy and Van Zwanenberg (2007) state that the process of transferring patients exposes them to physiological alteration. If the force is slight and the patient has normal health, it will usually result in minimal physiological change. However, if there is a high magnitude force, and the patient cannot compensate for it because of critical illness, physiological alteration can occur. It can be seen, therefore, that the transfer itself is a hazard to critically ill patients.

Furthermore, transfer nurses in community hospitals have mixed knowledge and skills regarding the policy of shared workload among nurses in community hospitals. Kanda explains how two transfer personnel would be of more benefit to critically ill patients. It also increases the confidence of transfer nurses in the case of any adverse circumstance occurring during the transfer. She mentions significant impact when accompanying a critically ill patient by one person and by two persons on the effectiveness of decision making and patient safety, especially choosing a management/treatment strategy in the ambulance. In her mind, it seems like two heads

are better than one for patient safety and quality of care (Mailloux, 2011). This finding is similar to that of the Hall study (Hall, 2001). Hall found that nurses transferring a small child to and from ICU felt insecure because of lack of knowledge or clinical experience. Also, another factor contributing to insecurity is the unstable condition of the child, or changes in technical equipment, especially when a nurse is transferring a patient without another member of staff to support her. Hall explains in her study that feelings of safety result from good relationships where responsibility and tasks are shared among the health care team.

To prevent hazards affecting critically ill patients during transfer, it is necessary to conduct a 'risk assessment' prior to the transfer. This is an assessment of the risk of hazard that might cause patient deterioration during the transfer:

"I thought they needed to assess the risk of adverse events that might occur with the patient during transfer, such as a patient with borderline blood pressure level or neuro signs. For this kind of case, the physician should provide two transfer nurses, guide the dose of medicine if adverse events happen, or include an intubation tube because we don't know what will happen to a patient affected by moving force, or the pathology of the patient's illness during the transfer."
[Pranee.P4.COM1]

Pranee's observation is consistent with the Intensive Care Society (2011) findings, which state that determining the risk level requires a detailed risk assessment document by an appropriately experienced medical staff member. The risk assessment should take into account: patient's current condition; specific risks related to the patient's condition, risk related to movement/transfer, likelihood of deterioration during transfer requiring additional monitoring/intervention, as well as duration and mode of transfer. The outcome of the risk assessment should be used to allocate the competencies of the transfer personnel required to transfer the patient. As stated in Chapter Three, some level 2 patients and all level 3 patients need a nurse and medical escort who have an anaesthetic, or critical care, background (Intensive Care Society, 2011).

Another issue found in the study that caused concern to the researcher is the unreliability of patient assessments and their management by different medical staff related to the pre-stabilisation phrase prior to patient transfer. A common problem is assessment of neurological function in patients such as those with head injury or stroke

by the Glasgow coma scale (GCS). Sometimes the physicians and nurses are not in the use of this neurological assessment. This results in different GCS scores between different health professionals. Gill et al. (2004) compared GCS assessments between pairs of emergency physicians. Only 38 per cent of the cases of GCS scores were the same and in 33 percent of cases the scores varied by more than two points. Even although the GCS score must be regarded as a rough estimate of neurological responsiveness rather than as a precise measurement, it seems that the high level of detail obtained can give a medical team a false perception of what is appropriate treatment, in particular in community hospitals where there is no advance scanning to investigate the patients. The clinical guideline practice suggests that, where a patient with a severe traumatic brain injury has a GCS of less than nine, this warrants definitive protection of the airway. This often includes intubation and sedation (Geyer et al., 2013, Kolias et al., 2013).

Because of the unreliability of GCS assessment among physicians and nurses, typically the physician will use their own assessment to make a decision. The issue sometimes impacts on the pre-stabilisation phase prior to transfer of critically ill patients. The scenario below occurred to Nirammon, the charge nurse on the evening shift at ED of COM3 hospital, and Pichai, the referral nurse, who accompanied the stroke patient who had a GCS score of eight to nine.

“In a recent case, there was just one junior staff member to accompany a patient because the patient didn’t have an endotracheal tube inserted. The patient had a GCS score ± between eight and nine. I measured it at eight at the time patient was admitted at our ED, but the physician measured nine after I called to consult him, and he came to take charge within five or ten minutes. The patient was not intubated. From my experience, I thought this patient wasn’t in good conditions. I was afraid the patient would get worse on the way. Then Pichai phoned me to say that the patient was losing consciousness at Nernsook (a place around 10 minutes before arrival at the REG hospital). He was pressing an Ambu bag with O₂ 100% for the patient. He said the patient could have a cardiac arrest. All he could do was just press an Ambu bag. So, I phoned to inform the ED staff of REG hospital to prepare to receive the patient. Sometimes adverse events that occur during the transfer are related to the treatment; it is not only because of the effect of nurse competency.” [Nirammon.P3COM3]

In the interview with Nirammon, the referring nurse made explicit references to the power of the physician on decision making about whether to give treatment prior to

the transfer of critically ill patients. Lack of the assessment level of the risks during the transfer impact on patient safety. The purpose of risk assessment is to identify and manage hazards to prevent likelihood of incidents occurring that could cause harm or injury to patients (Vincent, 2010). I argue that the risk assessment might be a possible strategy to deal with ‘unreliability of assessment’ when there is a different opinion among medical and nursing staff prior to transfer of critically ill patients.

7.2.2 Various practices for monitoring and documenting during transfer

The second category, ‘various practices for monitoring and documenting during transfer,’ indicates that there are various clinical practices for monitoring and documenting critically ill patients among the three community hospitals (see Table 13). In the Thai context, in general, there is no formal written document for recording a patient’s condition during transfer. However, the transfer manager of COM2 hospital has developed a record document for use during transfer and circulated it for referring nurses to use. During transport, therefore, the vital signs are measured every 5, 10, 15, or 30 minutes depending on how unstable patients’ condition are, alongside each organisational guideline and exercising individual clinical judgement with these processes being recorded. Also, oxygen saturation is monitored throughout the journey. However, there are different procedures in each community hospital. All participants said that their duties of monitoring of patients during transfer should be performed every 10 to 15 minutes. Some cases, e.g. post cardiac arrest, should be checked every 5 minutes throughout the journey. However, these performances vary among transfer nurses depending on the plan of the charge nurse in each hospital.

Table 13: Differences between vital signs and oxygen saturation monitoring, and written record documents between three community hospitals during transfer critically ill patients

Type of recording	COM1 hospital	COM2 hospital	COM3 hospital
The journey time	- Approximately 60-70 minutes	- Approximately 25-30 minutes	- Approximately 70-80 minutes
Frequency of monitoring	- Every 15-20 minutes or once in a while in transit or depending the individual nurse	- Every 10-15 minutes - Some cases were checked every 5 minutes	- Every 15 minutes (if a vital signs form was given in the case of low/high severe blood pressure level) - None if no vital signs form was given
Written record during transfer	- None	- Yes	- Rare
Written record document during transfer given to the receiving hospital	- None	- None for receiving hospital; - Yes - for their own hospital.	- Rare

From Table 13, it can be seen that there are various practices of monitoring and recording among the three community hospitals. Also, there is a possible risk of prolonged failure of measuring vital signs for patients from COM1 hospital to COM3 hospital if the transfer nurse checks vital signs only once or does not check vital signs at all throughout the journey. This issue may lead to a delay in treatment for the patients during transfer. The ineffective management or failure to intervene in a timely manner for critically ill patients can give rise to multi-organ failure and mortality (Robertson and Al-Haddad, 2013). This argument is supported by the following observed data with alteration of consciousness in a Mitral regurgitation patient. On arrival at the REG hospital, the patient had low blood pressure, but the transfer nurse was unaware of this until the patient's arrival because there was a wide time gap between checks of vital signs in the ambulance:

A transfer nurse checked vital signs once while in transit (around 40 minutes from departure and the journey time was around 70 minutes) while she and a nurse assistant accompanied an 'alteration of consciousness' patient (the illness history was Mitral regurgitation). He was intubated and received a nebulized bronchodilator. During the transfer, his level of consciousness was the same as before the transfer. Before departure, his blood pressure was 110/60 mmHg. During the transfer, it was 100/70 mmHg. On arrival, when receiving staff checked his BP, it was 84/42 mmHg. [Field note pp.48-49; Transfer letter. Case36.COM1]

Critically ill patients are likely to change in the condition even outside of transfer. To achieve the goal of transfer, nurses should pay attention to care and to prevent incidents or harm. The incidents can be divided into medical and technical adverse events. The most common medical adverse events are cardiovascular, such as hypertension and hypotension, bradycardia and tachycardia, and arrhythmias, or respiratory events such as inadequate ventilation or oxygen desaturation (Droogh et al., 2015). Most incidents seem to be preventable. One study reported that up to 91 percent of incidents were preventable (Flabouris et al., 2006). Good crew skills/teamwork, checking of equipment and the monitors, and good interpersonal communication would promote fewer incidents (Flabouris et al., 2006).

The situation below showed no measuring of vital signs of a critically ill patient in an ambulance from COM3 hospital. This can be linked to missing information at the handover between referral staff and receiving staff. For example, I found that the referring nurse (Namjai) chose to avoid answering questions about the patient's blood pressure. She used oxygen saturation level to reply to the questions from receiving nurses when the referring nurses asked her about the blood pressure of the patient who had a stab wound in the chest with massive hemothorax. She kept quiet because she did not measure it in the ambulance. This issue can be explored as follows:

Normally we would check vital signs in low blood pressure or loss of consciousness in patients. However, in this case, I considered his blood pressure before departure, the amount of IV fluid volume he was loaded with and the amount of blood loss before and during transfer. So, I didn't check it because I thought his blood pressure would not change much. Moreover, I saw his oxygen saturation and pulse rates were still good (Namjai).

Mark: Transfer time = 1 hour 10 min;

The total bleeding in ICD bottles was 1,600 ml. (active blood before transfer 800 ml. and during transfer 800 ml.)

Vital signs before departure: BP = 170/110 mmHg, P = 78 /min RR = Ambu bag, SpO2 = 100%;

Pulse rate in the ambulance by pulse oxymeter = 76-84 /min, SpO2= 98-99%;

Vital signs on arrival: BP = 120/90 mmHg, P = 78 /min, RR = Ambu bag with 100% oxygen, SpO2 = 98%)

[Field notes pp.88-90; Transfer letter.Case43.COM3]

From the observation data, the referring nurse appears to have had ‘overconfidence’ in measuring blood pressure based on vital sign levels prior to transfer together with pulse rates and oxygen saturation during transfer. If patients before transfer have blood pressure level in the normal range, there is a high probability that they will not measure blood pressure of the patients during transfer. It seems that the monitoring and management of critically ill patients during transfer depends on individual clinical confidence and judgement.

As I stated in the previous section, transfer nurses are required to be competent in clinical judgement and decision making to optimise patient safety during transfer. Kissinger (1998) suggests that confidence is a crucial factor related to clinical judgement and decision making. In the medical area, overconfidence can increase the risk of iatrogenic harm that affects patient safety. It also results in delayed action (or worse, doing nothing) in the face of accurate clinical data that needs an immediate response or intervention (Croskerry and Norman, 2008).

In addition, Robertson and Al-Haddad (2013) emphasise that the onset of life-threatening illness of a critically ill patient is acute and sudden. More commonly, the onset is insidious. The signs and symptoms of the patient can be unpredictable, and the patient may take a long time to compensate for abnormal physiological changes. Therefore, a patient who is gradually deteriorating may go unnoticed until onset of severe organ failure. A study demonstrates that early indicators of critically ill patients are often missed by health care providers (McGloin et al., 1999). Apart from pathophysiology itself, there are also other factors which have an effect on patient deterioration during transport, such as the impact of motion (Harding and Goode, 2003, Handy and Van Zwanenberg, 2007), inappropriate preparation (Lim and Ratnavel, 2008) and lack of equipment and monitors (Barry and Ralston, 1994). Therefore, clinical judgement should be made with caution.

The frequency of procedures performed differs dramatically among individual transfer nurses, physicians, and organisations, and the consequence of adverse events or near errors that have occurred to critically ill patients during transfer care causes the researcher to be concerned about the importance of developing and implementing

clinical guideline practice or standard procedures for the inter-hospital transfer care in community hospital settings. The following extract from Suthep, the transfer manager of the REG hospital, serves to illustrate some of these points:

“If the patient has a cardiac arrest, you need to perform ACLS. There should be written guidelines on what to do in 1-2-3 steps if the patient has a cardiac arrest during the transfer. There is nobody who has done this. Because these days we can do only the basics with the problems we find. Sometimes chest compression was performed; other times only the Ambu bag was squeezed. Sometimes they (the referring nurses) didn’t give medication to the patients, or even if they did, they didn’t know at what time they had to do it.”
[Suthep.P3REG]

Providing an integrated and evidence-based standardised approach and patient-centred guidelines for the safety of transfer care of critically ill patients can reduce the risk of missing important details (Intensive Care Society, 2011, Sethi and Subramanian, 2014), or using a systematic ABCDE approach as a guideline which facilitates assessment and rectification of life-threatening problems by prioritising actions (Robertson and Al-Haddad, 2013).

The literature (Woolf et al., 1999, Haxby et al., 2010) demonstrates that clinical guidelines can improve the consistency of care. Patients with the same clinical problems receive different care depending on the health care provider, hospital, or location; clinical guidelines should direct a method of care for the patient in the same manner regardless of place or by whom they are treated. However, the literature comments that clinical guidelines have limitations if these guidelines over-rely on expert judgment resulting in a misleading and misinterpreted recommendations, and if the guideline does not cover patients’ needs. Hence, clinical guidelines can be used to improve the quality of care and patient safety by raising the general level of practice to meet the minimum standard of care, and it should be based on evidence from best practice to ensure better patient outcome (Woolf et al., 1999).

In the inter-hospital transfer of critically ill patients, transfer nurses play an important role in implementing an effective response, including patient assessment, accurate recording and documentation of patients’ condition, ability to recognise and interpret unusual changes, and provide appropriate care (AAGBI, 2009). However, one of the

notable features of quality of care identified was that documentation of care and monitoring during transfer of critically ill patients is missing.

[W]hen there is a crisis or worsening symptoms during the transfer, there is no record of the problems or the treatment. This is important data, such as when a patient becomes unconscious ... I don't know if they have checked the patients' vital signs while they were on the way or not because there is no evidence of what they did during the transfer. [Suthep3REG]

In the interviews, the receiving nurse showed concern about there being no evidence of care during the transfer as this impacts the continuation of care at the receiving hospital. From the previous data, the referring nurses provided medical services and observed patients. They operate medical equipment and consult with physicians to ensure patient safety. However, there was no record of patient information during the transfer from two of the three hospitals. This issue could indicate that the awareness of the importance of recording patient data during transfer among the referring nurses is poor. If situations occur with patients, the referring nurses have no evidence to demonstrate the quality of their care.

The primary purpose of medical records is to record information about the patients and their care, but it can be used to serve many functions (Huston, 2004), including reporting hospital services' activity, monitoring hospital performance, research, or for presentation in courts of law (Carpenter et al., 2007, National Council of Social Service, 2007). The written medical record compiled during inter-hospital transfer can serve for continuity of care in terms of illustrating the progress of patient's condition, further proper management, and for reviewing the quality of transfer care improvement. It can be used for a review to find errors and adverse events that should be prevented in future (Thomas and Petersen, 2003). This written medical record, therefore, is necessary for safety and quality of transfer care service.

7.2.3 Relying only on the data in the transfer letter

This third category, 'relying only on the data in the transfer letter,' is often found from observed data taken from the pre-transfer period until the handover meeting. The evidence shows that some charge nurses at community hospitals, referring nurses, and receiving staff at REG hospital rely on patient information from only the transfer letter.

There is no verbal handover between the two hospitals. This is most likely to happen with patients who are in a stable condition. The following accounts provide evidence of this.

During data collection in the handover process between the receiving nurses and the referring nurses, I found some cases where there was no communication between the referring and receiving staff. When the referring nurse came to ED, she stood next to the patient trolley awaiting ED staff to receive her patient. When the nurse/physician arrived to receive the patient, the referring nurse passed over the transfer letter, and the referring nurse let the ED staff read through the transfer letter. There was no discussion between them and this marked the end of the handover process. [Field note p.39; p.70]

In these cases, if there are no questions from the receiving staff, the handover process is in silence. This behaviour is established as a normal, habitual pattern of communication from both referring and receiving staff members. The experience is similar to that of Horwitz et al. (2009) who found that, in the majority of clinical handovers from internal medical residents, no questions were asked by the incoming party. One may argue that the lack of questions may be due to previous knowledge and personal experience of the patient; however, in the same study, the authors demonstrated that important clinical information was omitted and there were mischaracterisations in more than 20 percent of sequential handovers. These omissions and mischaracterisations were rarely recognised by incoming doctors unless they resulted in patient harm.

Another extract captured from direct observation illustrates the issue of handover by using only the transfer letter as follows:

At 3.20 pm, the patient arrived with two transfer nurses. The assigned ED nurse arrived in front of the ED to receive the patient. She asked the referring nurse for a chest x-ray of the patient. She then told a porter to move the patient to the isolation room. After that, she handed the film to the physician. When the physician had seen the chest x-ray film, he went to receive the patient with two nurse assistants without any questions. I noticed that nobody from referring and receiving staff asked to be present at the handover. Then the referring nurse (R1) left the room without observing the handover. I asked her about this:

BE: "Did you do not participate in the handover?"

R1: "Nobody asked me. It seemed nobody was paying attention." (Her facial expression indicated that she was unhappy with this situation).

I therefore told her that: "You could hand over the patient to the physician." Then, she walked back to the isolation room and handed over the patient to the physician.

After that, I asked the nurse who got the phone call to receive the patient why nobody felt the need to ask for detailed handover. She replied to me that:

"I already know (the patient information) from the phone. And I can read details from the transfer letter." [Field note pp.42-43; Transfer letter.Case34.COM1]

It can be seen that no verbal communication occurred in the handover meeting. It also reflects to a lack of attention during the reception stage, which might entail risk to patient safety and lead to interpersonal conflicts. Additionally, this behaviour might represent lack of awareness of the value of the handover to the patient or to themselves. Despite the referring nurses giving energy and effort to their role of providing care for critically ill patients, it seems that they fail to complete their duty in comprehensively assuming responsibility for a newly-arrived patient, thus undermining their roles as nursing professionals.

Apart from information transfer, the patient handover is a process of transferring responsibility of care and showing professional responsibility by one person, or a group of professionals, to incoming staff members on a temporary or permanent basis (Wears et al., 2004, Australian Medical Association, 2006, Patterson, 2008, Manser and Foster, 2011). After handover, therefore, the transfer staff member has finished their duty of care, the patient now being in the hands of the receiver. The important part of the care transfer is the condition of the patient and this should be formally recorded by the receiving team (AAGBI, 2009). Liukkone (1993) and Lamond (2000) point out that the handover also assists professional staff in a judgement and a decision-making process.

In this study, the transfer letter is shown to be an integral handover tool that summarises important patient background information, clinical assessment of the patient and his treatment-in-progress. Every staff member involved in transfer care also demonstrated that the transfer letter is an important source of patient information. However, the letter does not cover the holistic care needs of patients, such as patient and family concerns. No information related to social history, patient domestic concerns, and any medical/nursing plans for further management are transferred to the

receiving staff members; although, the receiving nurses asked questions and collected information from patients and/or patient family members:

During transfer of a patient with a chest stab wound and severe hemothorax, I observed the referring nurses' care of both patient and the patient's relative. They assembled information, such as the patient's urine volume in the ambulance, and the fear and anxiety of patient's wife. At the handover meeting, this information was not passed to the receiving staff. Also, not every staff member focused greatly in communicating with the patient; they asked about the wounds at the chest area, content in ICD bottles, and blood pressure during transfer, and got their information from the transfer letter. [Field note p. 91.COM3]

If the transfer letter is incomplete, it may affect data transferred to the receiving staff, and the safety of the patient might be affected. In addition, if there is no verbal handover from the transfer nurse to the receiving team, the transfer nurse is only permitted responsibility for conveying information within the transfer letter to the receiving staff members. Therefore, this issue reflects a lack of recognition of the purpose of the handover process between the referring and receiving team and roles of transfer nurses in the handover process.

The handover is an essential process in inter-hospital transfer care. It consists, not only of the transfer patient's information, but it is also an important function where it is recognised that the transfer nurse's account has a role in the delivery of quality of care so that nurses can demonstrate their knowledge and competency. As Strange (1996) found, in an ethnographic study of patient handover in an intensive care setting, the functions of handover can be divided into three themes. First, the 'overt' function refers to information sharing of patient data that influences care continuum. Second, there is a 'covert' function, whereby nurses use the handover to establish knowledge to enhance their expertise and protect their roles in patient care. Finally, it can be suggested that there is the 'ritual,' which may facilitate nurses' agency in maintaining certain nursing practices.

Ritual serves to express the meaning of an important process to groups of people working within a culture or subculture (Wolf, 1988). Wolf identified the shift handover as having another role - socialisation. According to Wolf, nurses learn to be a nurse through the working ritual of the shift report. During the report, Wolf suggests that

junior nurses are “evaluated, shaped, taught and corrected” (p. 66). Also, standards of nursing care are set, repeated and checked from shift to shift. They warn each other to watch for situations in which error could take place. Handover serves as a major forum for responsibility for patient care. Nurses use patient handover as a place to complain, to express humour and voice concern. This enables them to diffuse some of the difficulties of the nursing role. The handover is clearly the domain where a nursing professional is valued. Holland (1993) also concluded that reporting time, or patient handover, is a cultural system among nurses and reflects the values of the group. These values (i.e. nursing practice) are sustained and transferred at the handover.

Handover between shifts, or between medical staff of two site settings during patient transfer, is basic to the organisation of health workers and is an essential aspect of health care delivery (Australian Commission on Safety and Quality in Health Care, 2005). Previous studies reveal that people entering the handover process may not be clear on their responsibility when transferring the patient, which can lead to a mishandled handover if the responsibility for patient care, and of follow-up, is not clearly defined (Patterson et al., 2004, Beach, 2006). This finding is consistent with the study by Bost et al. (2012) who assert that information in transfer letters might be lost because of handwriting, time, or lack of awareness of the need to record a specific detail.

7.2.4 Questioning as judgement

Dislike of feeling that they are being ‘judged’ is noted among referring nurses, while transfer nurses are sensitive about being asked ‘why’ questions concerning their patients by the receiving staff. Although, these questions are to enquire and to identify the accuracy of information from the referring nurses, it appears that referring nurses dislike answering the ‘why’ question, particularly when the receiving staff ask them many questions related to the reasons for using specific medical treatments. Kanda from COM1 hospital and Sookjai from COM3, referring nurses, had the same experiences on this issue, notably with questions such as:

“Why was the patient not intubated? (Sookjai.P1COM3)

“Why did you not insert ICD? (Kanda.P1COM1)

The referring nurses felt they were judged or had done something wrong as a consequence of 'why' questions, especially when a patient experienced an adverse event before reaching the REG hospital. Also, it is difficult for them to respond to those questions because of limitations on nurses' authority and the distribution of power within medical hierarchies (Holland, 1993). They argue that, if questions are related to nursing care, they feel comfortable. However, some questions are related to the reasons for medical treatment, or procedures that belong to the realm of physician autonomy and responsibility. This issue results in nurses' uneasiness and therefore communication breakdown in referring nurses' handovers. Wanpen, a receiving nurse, pointed out the issue surrounding the 'why' question during handover in the pre-transfer period:

"She (staff nurse in charge at a community hospital) would tell us a patient's name and surname, age and diagnosis. What treatment was given to the patient? Sometimes the transfer centre nurses asked the 'why' question because of their own inattention. Sometimes it looks like we judge them. I heard that they were quite dissatisfied. Sometimes, nurses ask their physician to call back to us (to the REG hospital) to answer questions instead of them. We then didn't know who handed over the patient on the phone. She or he might be a doctor or a nurse. The dispatch nurse at the transfer centre would ask them the questions. For example, you didn't insert the tube, did you? Why did you not do that? We asked because it seemed that improper treatment had been given to the patient."
[Wanpen.P4REG]

Nattha highlighted issues surrounding questions at the handover meeting:

"Actually, it depends on the individual nurse who receives the patient. For me, although I didn't know the patient before I had to take responsibility for (him); I always read the transfer letter first. If I still had a question about the patient, I would ask them later. I noticed that some receiving nurses didn't read the transfer letter, but they started to ask questions directly. This caused the referring nurse to feel confused about why we were still asked many questions. It depends on the individual nurse." [Nattha,P2REG]

The opening question can also begin with 'why.' It might be a reasonable question to ask, and it is necessary for medical situations. However using 'why' questions in clinical situations can cause the listener to feel that they have done something wrong or that they need to justify their actions. Also, the 'why' question raises the issue of individual communication habits and communication skills among receiving staff.

However, it can imply that receiving nurses consider the importance of proper medical management prior to transferring the critically ill patient, which may impact the patient's safety during transportation. From their experience of receiving seriously ill patients in the emergency department, they have found some patients had undergone critical adverse events, such as loss of consciousness or respiratory failure. These experiences make them wish to be aware of causes of adverse events occurring during transfer that might be associated with inadequate treatment prior to the transfer.

Communication by the nurses who attend the handover process differs according to their status in the nursing hierarchy, such as a generalist, or a nurse manager, including the level of expertise, previous experience, and workload (Mast, 2007, Crane and Crane, 2010). They also use various of communication patterns and language to interact with others depending upon the ways they understand the handover process (Manias and Street, 2000, Friesen et al., 2008). Good communication skills such as listening, questioning, touching, body language and paralinguistics are grounded in a positive inter-personal relationship.

Another issue I found that may impede effective communication is the tone in speaking or asking additional questions. Philip and Naiyapatana (2004) in their ethnographic study of culture and communication in Thai nursing found that Thai culture use tones in language to communicate while westerners use more non-verbal communication and body language. Thais are taught to be quiet, polite and demure and do not use their hands to communicate. Thai culture will use the word 'kha' (กะ) at the end of a sentence as it emphasises formal, polite and respectful language that is equivalent to the word 'please.' However, the tone of a question can be interpreted in different vocal aspects. It is interpreted as friendly, or it can reflect judgement. Judgment is the process of thinking to make a comparison (implicit or explicit) between how things are and how people think they ought to be. Therefore, in judgment, there is either dissatisfaction with something or desire to have something we want (McCabe and Timmins, 2006).

Additionally, paralinguistics, which include voice pitch, volume, speed and use of words, is critical of non-verbal communication's effect on overall communication

(McCabe and Timmins, 2006, Crane and Crane, 2010). Questions with different paralinguistics can be interpreted in many different ways depending on the tone and pitch of voice and also the emphasis of the questioner. If the question is posed loudly, or with a more high-pitched voice, the meaning and articulation of the question will signify a change in emphasis to the listener (Williams, 1997).

The findings illustrate that nursing staff in both settings may lack consideration of how they use language when posing and answering questions during handover, as well as the different approaches by nurses to different personalities. This issue may cause communication breakdown and interpersonal conflicts among transfer teams. The consequence of this breakdown is information loss that negatively affects patient safety. Hence, nurses should be aware of, or be taught about, communication and ways to engage with other medical personnel during handover (Drach-Zahavy and Shilman, 2015).

7.2.5 Ignoring and avoiding

The last category of behavioural pattern in transfer care processes is ‘ignoring and avoiding.’ This category examines how the handover occurs at a time when referring nurses are finalising or completing their transfer care assignment. This usually happens when the ED staff receive the patient and the transfer letter because it is then that the referring nurses believe that all the patient’s information has been successfully passed on for the next stage of the patient’s care.

Receiving nurses feel that referring nurses cannot answer questions of clarification on patient history and treatment for the receiving staff, and consider that some of them appear to want to escape from the situation by rushing to return to their hospitals. This issue results in information loss during the handover process. The following field note of the handover process of patient X, a 46-year-old man, stabbed in the chest and right hemothorax, might explain the reason why the referring nurse could not answer a question posed by the receiving nurses:

There were one physician and two ED nurses to receive the patient. The R1 (the first transfer nurse) gave the transfer letter to the physician. The first ED nurse recorded a nurse’s note and another one checked ICD content. Then she

shouted: "800 cc." At the same time, R1 said: "This bottle was the second bottle; the content in the first one was 800 cc." Then the physician asked questions:

Dr: "What is wrong with the patient?"

R1: "He was stabbed (she, then, gave the transfer letter to the physician)."

Dr: "Why does he have two wounds?"

R1: "The upper wound was the stab wound, and another was the ICD wound."

Dr: "How wide is it?"

R1: "One cen (centimeter)."

Dr: "His blood pressure hasn't dropped?"

R1: ... (no answer) ...

Then the ED nurse who checked the ICD content came to press an Ambu bag instead of R2 nurse (the second transfer nurse). At the same time, she asked: "total content 1,600 cc, his blood pressure didn't drop, did it?"

R1 and R2: ... (still no answer) ... and R2 said, "sat (saturation) is good along the way around 98-99%."

Note:

The total bleeding in ICD bottles was 1,600 ml. (active blood content before transfer 800 ml. and during transfer 800 ml.)

Vital signs before departure: BP = 170/110 mmHg, P = 78 /min RR = Ambu bag, SpO₂ = 100%;

*Pulse rate in the ambulance by pulse oxymeter = 76-84 /min, SpO₂= 98-99%;
no blood pressure was measured while in transit; no written document during the transfer; transfer time = 1 hour 10 min;*

Vital signs at arrival: BP = 120/90 mmHg, P = 78 /min, RR = Ambu bag with 100% oxygen, SpO₂ = 98%)

[Field note pp.88-90; Transfer letter.Case43.COM3]

It can be seen that the referring nurses were unable to answer the questions posed by the ED staff concerning the patients' condition during the transfer. They avoided answering the questions by 'keeping quiet' and gave other information instead. In this situation, the referring nurse could not answer a question because there was no vital sign checkup while in transit. At this point, the issue might relate to overconfidence and judgement in an individual transfer nurse.

Moreover, the perception of 'quiet' behaviour was a signal to the receiving nurses implying that the referring nurses might not have good awareness of the data. This meant that receiving staff members did not want to ask other questions to clarify more patient information and the handover was short. This issue was supported by the following data:

“Generally, when they arrive, they should inform us when they didn’t have the patient’s pulse. We want to know what things have occurred, when, and what they have done so far. They just have to answer us. They will be fine. But, some referring nurses made a face ... Um ... Um ... then we can conclude that they don’t know the patient’s data. That is why my colleagues were unhappy.”
[Wanpen.P2REG]

It is evident that there was information loss during the handover meeting. Looking at possible factors influencing ‘ignoring and avoiding’ behaviour, four possibilities were identified. First, the consequence of variability and inconsistency in transfer care e.g. patient assessment and monitoring during transportation by an individual transfer nurse results in information missing about the patient’s condition during the journey. Second, the quality of information given and received, and time pressure related to the patient’s condition in the handover process in the pre-hospital transfer period, results in information received by the referring nurses being incomplete. Third, there is a lack of communication skills among medical team workers e.g. clinical assessment and question-answer exchanges. Finally, it is likely that there is a lack of knowledge and nursing skills to care for critically ill patients, such as clinical assessment and interpretation of data.

These findings support the associations in previous studies. Jenkin et al. (2007) state in their study about handover from ambulance crews to ED staff that some handovers are very comprehensive. The amount of content and information depends on the experience and knowledge of staff (Benner et al., 2009). But an inappropriate assessment associated with knowledge deficit and missing information on subsequent shifts/wards results in inappropriate treatment and failure to identify adverse events (Priest and Holmberg, 2000).

The receiving nurses raised the issue of ‘avoiding’ during handover meetings. The issue refers to the handover behaviour of the referring nurses in that they gave too little time to the handover. Some of them were desperate to return to their hospitals. Focusing on this issue, the referring nurses might want to avoid situations where they could not provide information or answer questions adequately. On the other hand, interview data from the referring nurses illustrates that some are indeed under pressure to return to their hospital:

“We had to hurry to return to the hospital because some nurses still had responsibility on their work shift. For example, before they were allocated to transfer the patients, they were working on a morning shift, or some nurses had not slept yet before they were allocated to undertake a transfer. They had just finished their night shifts, and they then have to work on evening shifts. Hence, they want to return back as soon as possible.” [Field note pp.69-71.COM2]

This extract from Surat implies that nursing shortages and fatigue might affect the effectiveness of handovers. The literature demonstrates that nursing fatigue impacts human memory (Leonard et al., 2004) and mood changes, and causes ineffective communication (Gaba and Howard, 2002, Hughes and Rogers, 2004, Rogers, 2008).

The value of the handover in nursing practice has to be upheld and sustained, and transferred at the handover as Pensri, an ED nurse at the regional hospital, commented:

(...) They have a duty to transfer patients. Me too, I have a duty to transfer too. I also don't know what type of case I will have to transfer. I don't know this when I am called to do a transfer. I think we can learn ... In the nursing profession, we have to pay attention to detail. [Pensri.P4REG]

Pensri is concerned about nurses paying attention to learning and knowing patient information because it is important for continuity of care and patient safety for the receiving hospital. It reflects valuable insights into handover in the inter-hospital transfer care areas due to communication, and attitudes, towards safety that were observed among transfer nurses. If transfer nurses fail to be concerned about the values of effective handover, it not only results in ineffective or incomplete patient handover, but it also fails to provide a responsibility in their roles as nursing professionals.

I would argue that three habitual patterns in the handover process are most likely to be a significant factor that influences patient information given by the referring nurses of community hospitals and receiving staff of the regional hospital. They result in too brief a handover, and then important information may not be passed on. In this situation, if a transfer nurse is a young nurse who has less experience and skills, it is difficult for them to understand how the patient is, comprehend environmental elements, and foresee the patient's future prognosis (Endsley and Garland, 2000). At the same time, it would be worse if the referring nurses and the ED staff members inadvertently share time for the handover without valuing the handover or fulfilling it

completely (Frankel et al., 2012). This crucial issue appears to be a result of low literacy, low knowledge levels, and failure to work as a nursing professional among referring and receiving nurses. Many studies demonstrate factors associated with this issue as being due to staff receiving inadequate or no training in handover skills (Solet et al., 2005, Riesenbergr et al., 2010, Liston et al., 2014). Scovell (2010) asserts that one reason is that handover skills are not taught during nurse training, but are learned on the wards from observing mentors and peers. Nurses then learn to do handovers in a way that fits with the ward culture. This infers that a social, organisational context or handover tool shapes the handover. This may be a reason why sometimes nurses are not conversant in the objectives of fulfilling a successful handover.

Later, I describe the theme of the ‘behavioural patterns in transfer care processes,’ which is categorised as being an additional impediment to ensuring the quality of patient safety throughout the processes of transfer care. I will illustrate the provision of care that transfer nurses should adopt to attempt to maintain patient safety until their arrival at the regional hospital in the following section.

7.3 Maintaining the health condition of patients

The second main theme entitled, ‘maintaining the health condition of patients,’ describes the provision of transfer care to preserve the patient’s life and to maintain the stability of critically ill patients until arrival at the regional hospital. Critically ill patients are in danger and need continuous, close monitoring from technical support equipment, and medication to keep sufficient body functions performing. However, inter-hospital transfer care is a dynamic and complex process (Droogh et al., 2015). Indeed, there are multiple processes with many factors (e.g. pathology of the patient, equipment, level of care capability of the community hospital, and human resources) that can cause adverse events or complications during the transfer.

This section explores the practice that transfer nurses provide for patients until they arrive safely at the regional hospital. This theme can be divided into four categories for maintaining the patient’s stability during transfer until arrival at the regional hospital: (1) sharing complete information, (2) appropriately and rapidly responding

to changes in a patient's condition, (3) applying the ABCDE approach, and (4) managing risk.

7.3.1 Sharing complete information about the patients

This first category emerged when the referring nurses were able to give complete patient information to the receiving staff, such as progress records, highlighting of problems, vital signs, medication, past medical history, laboratory or any investigative reports. This information enables receiving staff to make informed decisions based on a complete picture of each patient.

The following field note exemplifies an account of what I observed when a referring nurse from COM3 hospital provided complete patient information which informed subsequent decisions.

I observed Malee at ED of REG hospital providing patient information to a physician of REG hospital; there was one physician, one nurse and one nurse assistant to receive this patient. The referring nurse gave information about the causes of the patient's problems, treatment, vital signs during transfer, and past illnesses. She emphasised that the patient's blood pressure was low. This included fluid resuscitation with which this patient was loaded. This information included current signs and symptoms. She responded to the physician's questions and the physician complimented her on this: "Today the COM3 hospital nurse did a good handover. She knew the patient and answered the questions well." [Field note pp. 21-22.COM3].

Further emphasis is demonstrated by this field note:

Upon arrival at the regional hospital, the referring nurse gave the transfer letter to an in-charge nurse and started her handover to four ED nurses as follows: "MCA patient, BP drop 80/40, loading IV 2,000, now 250 cc/hr two lines. These were the third and the fourth bottles, a lot of secretion with bleeding per mouth. The patient spat out saliva unconsciously. Open fracture left leg, no active bleeding now. Blood pressure 130/80-140/80, sat 98-100." [Field note p.75; Transfer letter.Case40.COM2]

It is evidence that the receiving nurses needed patient formation focusing on immediate medical problems and patient symptoms during the transfer in order to give treatment, and to promptly manage life threatening circumstances. If patient information is not acted upon in a timely manner, this can result in avoidable death or serious harm to

patients due to failure to provide continuity of care as well as avoidable readmission to secondary care. Quality of patient information can be seen immediately from the words of greeting from the physician when the priorities with full information about the critically ill patient, were demonstrated during the handover. Also, important questions asked about the patient's history of illness/injuries, and treatment given, were answered competently by the referring nurse. This gives immense satisfaction to the receiving staff members who regularly work in the emergency department:

“Good handover - I met them when they arrived; they told us immediately that the patient had a cardiac arrest, when it happened, and that she did CPR (cardiopulmonary resuscitation) along the way. We could be ready, and we didn't need to ask a lot. We could do resuscitation first, or in a case of low blood pressure or apnea, we can rush to help the patient.” [Nattha.P2REG]

It can be seen that a good handover from the receiving nurses' point of view is when the referring nurses are able to gather essential information about the patient to inform the receiving team's function. This information focuses on identified immediate medical problems and intervention, clearly stated with signs of weakness of vital function organs, treatment carried out since the time of onset of the event, and any significant previous medical history. Strange (1996) states that effective information assists nurses to prioritise and focus on patients' care needs. Anthony and Preuss (2002) state that information based on trends in the data and current conditions is essential for making informed decisions with the benefit of consequent problem-solving and patient safety.

7.3.2 Appropriately and rapidly responding to changes in a patient's condition

This second category emphasises the need to deliver appropriate care with minimal delay to the patient accessing medical treatment. Reducing delays means coordination between personnel and organisations in the transfer process. This means reducing waiting times for both those who receive and those who give care to the patient.

To save the lives of critically-ill patients, coordinating, managing, and ordering care in a timely manner throughout the transfer process (e.g. pre-transfer and transfer care) are necessary as Supaporn explains:

“Every step, such as detecting problems, solving problems and transferring patients swiftly is very important. We have to act quickly to save lives. I think the quicker patients arrive at the regional hospital, the more chance patients have of surviving, especially in cases of post-cardiac arrest.” [Suporn.P2COM1]

Like Suporn, Pranee explained her experiences while accompanying critically ill cardiac arrest patients by ambulance. The speed of the ambulance is paramount:

“The patient had a cardiac-arrest during the transfer ... sometimes I was afraid he would die. It seemed like we had to work against time, and it is a long distance between our hospital and the REG hospital. We needed to arrive at the REG hospital as fast as possible if the patient was to survive.” [Pranee.P4COM1]

For critically ill patients, timeliness is the main element to ensure the best possible chances of surviving due to the limited care level (e.g. specialists, investigative equipment and intensive care beds) at rural community hospitals. Reducing transfer delays for critically ill patients may increase their survival rate, particularly of patients who are in post-cardiac arrest or an unstable condition (Holland et al., 2015). This includes the ‘golden hour’ or ‘window of opportunity’ (Kipshidze et al., 2014) for some particular patients for whom intervention needs to take place to ensure their best chance of survival and to reduce mortality. For instance, the highest number of lives saved by reperfusion therapy in patients with acute myocardial infarction (Verheugt et al., 2006) and acute ischemic stroke (Iqbal, 2011) occurs within the first hour following onset of symptoms. The faster that effective treatment is initiated, the more likely aborted infarction will occur (Hanson et al., 2013, Spiotta et al., 2013). As the studies of van Diepen et al. (2012) found, longer transfer times for primary percutaneous coronary intervention (PPCI) in patients with ST-elevation myocardial infarction (STEMI) are related to higher rates of death, shock, and heart failure among patients undergoing inter-hospital transfer.

The field notes of the pre-transfer process below illustrate how reducing waiting time in treatment and minimising time delay in hospital transfer helps a patient with head injuries and multiple fracture ribs with hemopneumothorax:

During a late evening shift in the ED of COM2 hospital, the patient was a 40-year-old male admitted with head injuries following a motorcycle accident. He had multiple-fracture ribs with haemopneumothorax.

When the patient presented to the ED, he was confused and was short of breath with a respiratory rate of 50 times/minutes. The charge nurse asked for a history of the illness from the patient's relatives and then assessed the patient. She gave him oxygen and then phoned the physician. The nurse told the physician that "the patient was MCA (motorcycle accident) with confusion E3V4M4 and short breathing, and decreased breathing sound at right. Please come to see him now." After a few minutes, the doctor came and assessed the patient, ordered insertion of ICD in the right chest and IV fluid. One ED nurse assisted the physician to insert the ICD. Meanwhile, the charge nurse phoned a transfer nurse and an ambulance driver to accompany the patient. The transfer nurse arrived at the ED within five minutes.

When the transfer nurse arrived, the charge nurse handed over: "case MCA, confusion and dyspnoea, the physician is inserting ICD." Then, the transfer nurse went to assist the physician, and the ED nurse undertook the treatment. Before the physician finished ICD insertion, the ambulance was ready in front of the ED. While the patient was accompanied by the ED nurse to the X-ray department, the physician wrote the transfer letter. After that, the charge nurse phoned to notify the transfer of the patient to the regional hospital. The transfer nurse read the patient information in the transfer letter again. After the physician had received the chest x-ray film, he said, "the ICD was too deep," and he revised it. Then, the patient's neurological signs and vital signs were measured again. After that, the patient was transferred. [Field note pp.71-73.COM2]

It can be seen that the charge nurse reported to the physician on the patient's condition and cooperated in a timely manner with those responsible for his care. She started with a quick assessment and consulted the physician as she needed an appropriate response. She then communicated with clarity and conviction that the physician needed to come to see the patient immediately. After that, she cooperated with the transfer nurse, the ambulance driver and the transfer centre. The timely responses from all personnel involved reduced the time delay for the transfer and ensured the safety of this patient.

However, an issue with critically ill patients is that they cannot all be stabilised for transfer because of life-threatening consequences following their injuries/illness. These include patients with severe active bleeding, post-cardiac arrest or abdominal aortic aneurysm (AAA) (Morton and Fontaine, 2009). The patient needs to be transferred to the regional hospital for advanced treatment as fast as possible, even although he or she cannot be completely stabilised, as this example demonstrates:

“I once accompanied severe active bleeding with BP 50 (mmHg). This patient came from the maternity ward. She was loaded IV fluid two lines, on Dopa (Dopamine) max (maximum) dose. But her blood pressure did not respond. At first the doctor allocated one person to transfer her. I took charge around 2am. When I met the patient, I told the doctor that, if he allowed me to transfer her alone, I wouldn’t go because the patient was at risk of cardiac arrest. I asked the nurse-in-charge to call Nat to accompany the patient with me. When Nat arrived, he told me that if the doctor did not give treatment to the patient until she stabilised, he would not go. I told Nat that if we waited until she was stabilised; the patient would die because we couldn’t do anything else. We had already done everything. If we transfer her urgently, we would keep her alive. Then, Nat said that we had to put a CPR board underneath her because she had risk of cardiac arrest. In my opinion, we had done everything within our capability. I meant that we lacked equipment, we didn’t have a blood transfusion, and we couldn’t give her an operation. If we kept the patient until she was stable, it might be a long delay for her. We couldn’t do more than this. We didn’t have specialist medicine. Finally, we could accompany her until arrival at REG hospital. On arrival, she was drowsy, and it was such a relief because we were very stressed throughout the journey.” [Field note p.101.COM3]

This situation highlights the window of opportunity of survival. An appropriate response reduces time delay for the patient, which may give a chance of survival. There is also an element of risk of the patient dying: while we are awaiting stabilisation versus dying while being transferred. In addition, transfer nurses function with an eye to the future risks for a patient, anticipating what problems might arise and what they could do about them. This is because they have seen many scenarios for patients; they have expectations based on reality and have concern for the ones they are currently dealing with. Their anticipation is very contextual. It is based on what they observe to be occurring with a specific patient, rather than what might happen to patients in general. Therefore, being able to appropriately and rapidly respond to a change to patients’ conditions are crucial elements in the care procedure as critical illness is a life-threatening multisystem process that can result in significant morbidity or mortality (Robertson and Al-Haddad, 2013).

7.3.3 Applying the ABCDE approach

‘Applying the ABCDE approach’ is adopted as the third category of transfer care to ensure patient safety. The approach refers to the assessment of airways (A), breathing (B), and circulation (C), disability/deformity (D) and exposure (E) of critically ill patients. All receiving nurses from the REG hospital and all referring nurses from

COM1 hospital illustrate that safety of critically ill patients must be protected and addressed with reference to ABCDE problems prior to, and during, transfer from rural community hospitals. Suthep, a receiving nurse, commented:

“Most patients who are transferred have particular problems like ABC, whether it is respiratory problems, breathing problems, circulation system problems during the transfer. If we can solve these problems prior to transfer of the patient, they will be able to overcome critical conditions.” [Suthep.P3REG]

Suthep demonstrates the knowledge and experience he has acquired about the crucial causes of threat to the life of critically ill patients as being ABC problems. His emphasis on ABC problems is that more should be done to stabilise them at the outset and before transfer is commenced. The following field note describes nursing care during the transfer process of a patient with multiple injuries by a referring nurse from the COM2 hospital:

One referring nurse was phoned to transfer a male patient with multiple fractures (fracture mandible, open fracture left leg) with hypovolemic shock. He was in a state of confusion, on Ringer lactate solution IV two lines, and with a splint on his left leg. After a senior nurse had received handover from the physician, she went to assess the patient's symptoms before loading the patient into the ambulance. She said, “Um ... he has a risk of upper airway obstruction from the fractured mandible. B: Okay, C: Okay now, and D: on the splint.” She added two extra bottles of Ringer Lactate solution to the ambulance prior to transfer.

While in transit, she assessed the patient's consciousness and checked vital signs and oxygen saturation every 10 minutes and suction bleeding with saliva per mouth periodically until arrival at the regional hospital. [Field note p.75.COM2]

The field note can be simplified into two sections. Firstly, it is evident that some referring nurses applied the ABCDE approach as a guide for their care of critically ill patients during the transfer processes. Robertson and Al-Haddad (2013) state that a systemic ABCDE approach should be applied in assessment of critically ill patients. This approach helps assessment and correction of life-threatening problems by priority, provides a standardised approach among healthcare professionals, facilitates communication, and decreases the risk of missing important details. In the first stages of primary assessment, resuscitation and life-saving interventions should be performed concurrently. Secondly, it shows the characteristics of the transfer nurse in terms of

anticipating problems, or future thought about the risk that might arise during the transfer. According to risk assessment prior to the transfer by the transfer nurse, I observed that she performed suction salivary and bleeding per mouth for the patient periodically to prevent upper airway obstruction while accompanying the patient.

The above case is an example of a situation where a transfer nurse sometimes has to transfer an unstable patient or high-risk patient, such as airway obstruction from maxillofacial trauma during transfer, or low blood pressure from active bleeding. This patient had a stable airway, so he was not intubated. Patients with maxillofacial trauma mostly present with stable airway then simple oxygenation monitoring via pulse oximetry is required; however, the emergency prevention and treatment of life-threatening airway obstruction is also required. Moreover, securing the airway of patients with maxillofacial trauma is complicated and often made difficult by injuries to routes of intubation if it is done by an inexperienced physician because the trauma involves the patient's airway and their breathing is compromised (Kellman and Losquadro, 2008, Barak et al., 2015).

However, in Thai community hospital contexts, almost all transfer personnel are registered nurses. Within the scope of nursing and/or midwifery practice, they are responsible for (1) providing education, advising and counselling, as well as solving health problems; (2) helping individuals cope with physical and mental illness, including environment management to solve the effects of the illness, relieve symptoms, prevent diseases dissemination and provide rehabilitation; (3) providing primary medical care and immunisation; (4) assisting physicians in performing treatment; (5) providing maternal and neonatal health care; (6) providing physical examinations, and delivery of family planning services. These activities are based on science, and the art of nursing or midwifery (i.e., nursing processes including health assessment, nursing diagnosis, planning, nursing intervention and evaluation) (Thailand Nursing and Midwifery Council, 2017b). If there is an unexpected adverse event (e.g. low blood pressure, cardiac arrest, loss of consciousness) with a patient in an ambulance that is beyond the autonomy of the transfer nurses to deal with, or when they think the patient needs more advanced treatment/procedures, they will seek help by

making a detour during transfer to the closest community hospital. This will be discussed further in section 7.4.3.

7.3.4 Managing risk prior to transfer

‘Managing risk prior to transfer’ is the last category and discusses sustaining a patient’s condition by preventing harm or anticipating deterioration during the transfer process. From nurse testimonies, Therefore, being able to appropriately and rapidly respond to a change to patients’ conditions are crucial elements the risks that may occur during the transfer should be assessed prior to moving the patient to prevent harm during the transfer. This risk assessment requires the involvement of physicians and nurses with skills and experience:

“We need to assess the patient; what has been done; what IV (fluid) and medicine has been administered. Is he vulnerable to any risks during the transfer; what are the risks? For example, the physician said the patient is at risk of cardiac-arrest. During the transfer, therefore, if you couldn’t palpate pulses, you have to inject Adrenaline every 3 minutes or whatever else you have to do during the journey. We have to discuss the risks with the physician prior to transfer to prevent adverse events during the journey; and how to manage these risks if they occur in the ambulance.” [Thantawan.P4COM2]

The field note below illustrates an adverse event occurring during the transfer of a stroke patient from COM3 hospital to the REG hospital and is associated with a lack of risk assessment prior to transfer. This patient was transferred without intubation because his GCS score was nine (data from the transfer letter), but the GCS score was borderline between eight and nine (the GCS score taken by in-charge nurses was eight, and nine by the physician):

GCS’s patient reduced to $E_1V_1M_1$ at Nern (the name of the small town near the REG hospital), EMT-B pressed an Ambu bag and accompanied the patient alone. On arrival at ED: patient $E_1V_1M_2$, he had ET tube No.7 depth 22 cm. inserted, CT scan result shown ICH (intracranial haemorrhage)

GCS $E_3V_1M_5 \rightarrow$ long distance \rightarrow the patient should have had ET tube inserted before transfer

There was one accompanying member of staff \rightarrow He could not do very much if critical adverse events occurred on the way. [Transfer document]

It can be seen that the incidence of an adverse event during inter-hospital transfer is common due to the patient's pathophysiological crisis; moving patients exposes them to physiological alteration, including human error (Handy and Van Zwanenberg, 2007, Robertson and Al-Haddad, 2013). It is also possibly caused by vibration and acceleration (Handy and Van Zwanenberg, 2007) because of road conditions – uneven road surfaces or many narrow winding roads – and the long-distance journey between COM3 hospital and the regional hospital. Lack of sufficient forward thinking about possible risks might occur prior to transfer of the patient and may reflect a lack of planning to prevent harm during the transfer.

The nature of underlying illness/injuries assessment and level of risk during transfer of an individual patient is necessary to assess prior to transfer. Also, risk assessment is needed to determine the number of nurses and their knowledge, experience and competencies for accompanying the patient (Intensive Care Society, 2011). This approach facilitates transfer nurses in maintaining quality of care at the level of care needed for critically ill patients in order to keep them safe. However, often this assessment is lacking in clinical practice – as stated in 7.2.1.

7.4 Overcoming adverse events

The third theme, 'overcoming adverse events,' describes how referring nurses deal with adverse events and complications occurring while transferring critically ill patients to the regional hospital. Because of space limitation for medical personnel and support facilities in the ambulance, all referring nurses commented that trying to keep a critically ill patient alive, or in a stable condition, until arrival at the regional hospital is the most difficult challenge. The main types of adverse events that cause life-threatening crises or cardiac arrest during transit in the ambulance include apnoea, arrhythmias, neurological deterioration, seizures, and hypothermia (Barry and Ralston, 1994, Nielsen et al., 2011). Apart from the main aspects of maintaining a patient's condition, there are three specific categories: (1) detecting early warning signs by attentive observation, (2) clinical judgement and decision-making, and, (3) seeking help or diverting to a close-by hospital. These three categories overlap and interact with each other.

7.4.1 Detecting early warning signs by attentive observation

Early detection of a patient's status from objective and measurable signs, and rapid response to patient deterioration, may optimise patient safety by halting deterioration or the effects of adverse events. Transfer nurses must gather a number of indicators to anticipate patient deterioration before the evidence becomes convincing in terms of changes in vital signs or other measurable evidence during the transfer. To detect early warning signs, a transfer nurse needs to be an attentive observer of the patient, which is a practice of care that goes beyond close monitoring.

Referring nurses consider that, when adverse events occur in critically ill patients during transfer, the adverse events or complications should be detected early - before the problems become serious:

“My hospital is further from the regional hospital than the other community hospitals. Thus, early detection and knowledge are very important because we do not have a physician with us. If we cannot detect when an emergency is occurring, the patient will lose his life.” [Pranee.P4.COM1]

The nurses' careful monitoring and early detection of problems are the patient's first line of defence from harm. To illustrate, many drugs can only be used safely if their volume and effects are observed, notably if there are possible incompatibilities, contraindications, and adverse reactions are caught early (Benner, 2001). Wanpen gave an example of anti-convulsion injection in a patient with a status of epilepticus:

“When we are responsible for taking care of a patient, we need to observe him closely. If the patient must go to x-ray, we have to accompany him. We have to prepare the medicine to accompany us, to protect him from convulsions and accident. After medicine has been injected, we must observe for respiratory problems; does he have apnoea? We must take precautions. This is quality of care. It is not only injecting and recording medicine.” [Wanpen.P4REG]

In the interviews, the transfer nurses talked about how important attentive observation is to the patient, both for safety and quality of care:

“The important thing is to ensure patient safety and quality of care by commitment and attention. Nurses have to care about their patient; how s/he is; and what are the patient's needs?” [Suda.P1COM2]

Wanpen and Suda discussed their perspectives on ‘attentive observation.’ Attentive observation is a core feature of mindful practice related to a purposeful, non-anxious and reflective presence that can apply in healthcare practice. It includes paying attention to the purpose of one’s mental and physical processes during daily tasks and acting with clarity and insight (Epstein, 2003). Observation can be inferred as ‘being attentive and watchful’ as found by the study of Karlsson et al. (2012). They state that ‘being attentive and watchful’ are characterised by the nurses being present and observing the patient for any sign of deterioration or discomfort, achieved through watching, listening, observing body language, facial expressions, and touch. Therefore, ‘attentive observation’ in this study refers to special awareness and conscious observation of the patient for any sign of deterioration during the delivery of care throughout the transfer process - by watching, listening, feeling, and by intuition.

In addition, detecting early warning signs of deterioration in a critically ill patient during transfer is a challenge in terms of how transfer nurses obtain precise information while working in a moving ambulance:

“The challenge is patient assessment; in the case of critically ill patients, particularly in post-cardiac-arrest, it is very challenging of our knowledge and skills. It is difficult to palpate pulses and to do procedures because of the force of movement and the road conditions. Although we have a monitor, it sometimes shows incorrect results. We have to evaluate it carefully and precisely.”
[Sookjai.P1.COM3]

The excerpt from Sookjai demonstrates the obstacles in detecting early warning signs of adverse events and the demands placed on nurses’ competencies. This competency links with the nurses’ knowledge and experience, essential components influencing accurate assessment of early signs of adverse events of patients and in getting an appropriate and timely response to the patient (Benner, 2001), as demonstrated by the following situation:

During transfer on an evening shift, there was a male patient, 62-years old, with Atrial fibrillation, R/O NSTEMI (None ST Elevation Myocardial Infarction). Prior to transfer, the patient was awake, had discomfort in the chest, weakness, pulse 160+ /min. Irregular, BP 140/80 mmHg. Around half way through the journey (10 minutes), the patient closed his eyes. At this time, the pulse oximeter

showed O₂ saturation was 99%, but pulse rate ranges 30-40 /min., then the transfer nurse checked his radial pulse and called the patient's name to wake up him. She asked the patient: "Did you fall sleep?" The patient replied: "No, I didn't. I felt tired". She said: "Shall I check your blood pressure?" The patient said "Okay" and he then closed his eyes again.

When we returned to the community hospital, I examined my understanding of the patient's symptoms, and the errors of the pulse showed on a pulse oximeter:

BE: "What was wrong with the patient when you wakened him while in transit?"

The transfer nurse: "I didn't believe the number shown on the pulse oximeter, sat 99, pulse 30-40. It wasn't right. That was why I checked the radial pulse, and it was around 140 (beats/minute). And I needed to confirm the patient was still conscious, and his blood pressure was still okay. Equipment error is common. We need to pay attention to the patient and the results from the equipment."

I asked her about her experience, and she said she worked in the ICU medicine department at the REG hospital for three years before moving to work at the maternity ward at the COM2 hospital. [Field note pp.77-79.COM2]

It can be seen that knowledge and experience, accompanied by attentive observation of the patient, are core functions of the nursing role as they have an increased positive impact on patient safety during transfer. From the observation data, the referring nurse simultaneously watched the patient's level of consciousness and checked his pulse rate. She touched the patient to confirm accurate pulses, and she observed and interpreted body language and facial expressions in order to be aware and attentive of the patient's well-being.

It is evident that critically ill patients require careful monitoring, and the margins of safety are often narrow regarding the pathophysiology and risks from inter-hospital transportation (Morton and Fontaine, 2009). In the transfer care system from rural communities to a tertiary facility hospital in Thailand, it is the nurse who is the primary person who can detect the first signs of deterioration in a patient's condition. It is nurses who must often manage rapidly changing situations until the patient arrives at the facility hospital. Therefore, the transfer nurses who care for critically ill patients in an ambulance are in a position to prevent errors and detect risk of harm to patients. After the warning signs of deterioration are indicated, the transfer nurses should make their judgements with the most appropriate decision-making and problem-solving options at their disposal.

7.4.2 Clinical judgement and decision-making

“The challenge is, if the patient suffers a cardiac arrest, or deteriorates, or displays unexpected symptoms during the transfer such as a cardiac patient, a seizure patient, or a shock patient, resulting in a cardiac arrest on the way. This is our challenge that we have to overcome. We have to help them. We have to make immediate decisions and do things correctly. At that moment, there may be only one of us on transfer duty, or there may be two nurses. We have to manage everything there. That is the challenge.” [Ladda.P2COM2]

The above extract illustrates the second category of overcoming adverse events – decision-making – during adverse events or complications that occur with a critically ill patient during transfer.

Clinical judgement and decision-making are essential components of nursing responsibilities to optimise patient safety and promote quality patient outcomes (Bosk, 1979, Benner et al., 2009, Gunnarsson and Warrén Stomberg, 2009). This study has found that transfer nurses are often confronted with unexpected adverse events or medical crises related to physiological deterioration during transfer, both from patients who are in a stable condition or in an unstable condition prior to transfer. The adverse events are identified within interview participants’ experiences, direct observation and transfer document reviews, and include cardiac arrest, dyspnea, loss of consciousness, low blood pressure, agitation and seizure. These adverse events jeopardise the safety of critically ill patients during transfer and require immediate medical attention. It is the responsibility of transfer nurses to initiate efforts to resuscitate the patient because they are the only medical personnel in attendance. Vincent (2010) states that decision-making is a crucial process of making a judgement or choosing an option in circumstances of uncertainty and transfer nurses have to balance the potential risk of problems with the risks that accompany intervention.

However, the terms ‘clinical judgement’ and ‘decision-making’ tend to be closely linked (Dowding and Thompson, 2003, Tanner, 2006, Benner et al., 2009). Thompson and Dowding (2009) acknowledge that there is a link between judgements and decisions in health care practice. The simple way of looking at judgement is as ‘an assessment between alternatives’ (Dowie, 1993) or ‘weighing the options’ (Vincent, 2010). Maule (2001) proposes that the judgement process involves different aspects

of information about a person, object, or situation to enable overall evaluation. Clinical judgement, according to Benner et al. (2009, p. 200) refers to “the way in which nurses come to understand the problems, issues or concerns of clients and patients, to attend to salient information, and to respond in concerned and involved ways.”

As opposed to the assessment of information, decision has been defined as a ‘choice between alternatives’ (Dowie, 1993) or ‘choosing amongst the options’ (Vincent, 2010). Clinical decision-making results in outcomes, i.e. action to do (or not to do) something. The process of decision-making involves the weighing up of the potential costs and benefits associated with each option (judgement) or outcome that nurses are considering before deciding on a course of action. This is supported by Hastie and Dawes (2001) who state that decision-making concerns the process of choosing a course of action while judgements are components of the decision-making process associated with assessment, estimating and making inferences.

In the context of clinical skills, Vincent adapted decision-making methods from Flin, O’Conner and Crichton (2008)⁹ as follows: First is intuitive recognition primed decision-making. This means to decide to solve the problem that will affect a patient’s life-threatening or body function failure as a priority. Second is rule-based decision making. This method is a decision to pursue another option if there is a failure of outcome after following rules or procedures. Third is clinical judgement and choice. This is one of the several methods for decision-making. This method needs more analytical process than the first two methods, involving assessing the obtainable information, assessing the support, then weighing up and comparing the options before making a judgment. However, in clinical practice, clinicians and other experts do not carefully weigh up the choices; instead they rely on their clinical expertise. And fourth is training in decision-making. This method is creative decision-making through training because most healthcare staff, including physicians and nurses, have no

⁹ FLIN, R., O’CONNOR, P., & CRICHTON, M. 2008. *Safety at the sharp end. A Guide to non-technical skills*. Ashgate: Guildford.

training in decision-making. Even although they receive ample training in the signs and symptoms of a disease, few of them in any field are ever given guidance on how best to make decisions.

In this study, clinical judgment and decision-making are considered as problem-solving activities, beginning with the processes of interpretation or conclusion about a patient's problems, and choosing the most appropriate decision and implementing nursing intervention towards the diagnosed problem, and culminating in the evaluation of the effectiveness of the intervention when adverse events occur in critically ill patients. Interview participants' experience highlights critically ill patients' needs, the sustainance of care, and the challenges to solve problems when adverse events occur. Effective clinical judgement and decision-making have an impact on patients' survival:

"The challenge is that when we accompany a patient, his condition changes. For example, I had an experience with the transfer of a patient with abdominal pain with rout out PU perforation (peptic ulcer perforation), but on the way he went into shock. The challenge ... is we have to use our own knowledge from practice, not under a physician's guidance. We have to consider where the problem came from and solve the problem at that moment to save the patient from serious complications. I think that how quickly we can help him depends on how fast we make a decision" [Sukhum.P2COM3]

Sukhum suggests that transfer nurses demonstrate a high level of nursing responsibility and autonomy to save patients' lives through effective clinical judgement and decision-making. Also, the participants commented that clinical judgement and decision-making require various types of knowledge and experience in many situations that are derived from science and theory:

The challenge for accompanying nurses is their decision-making and problem-solving skills during transfer. The decision-making from my perspective is made from correct knowledge. If you don't have knowledge, you might make a wrong decision. [Pranee.P4COM1]

Further emphasis is illustrated by Niramom:

... We have to make immediate decisions while accompanying patients who had stable conditions and good vital signs prior to transfer, but suffered cardiac arrest or BP drop during transit, and we had to CPR, load IV fluid, tell the drivers to drive the ambulance faster and do other things to help the patients ... something like that. This experience helps us to gain more knowledge and skills

to care for patients and makes me more cautious in assessing the patient during the transfer. [Niramon.P3COM3]

Interviewees suggest that clinical decision-making skills involve experiential knowledge and intuition. Decisions are influenced by the level of the nurses' knowledge. Knowledge and experience are seen as a prerequisite to making correct judgement and decisions. Tanner (2006) comments in his study of the clinical judgements model that: (1) clinical judgement is influenced more by nurses bringing experience to the situation than the objective data about the situation they face; (2) clinical judgment is a level of knowing the patient and their typical response pattern, as well as an engagement with the patient and their concerns; (3) clinical judgements are influenced by the context of the situations and the culture of the nursing care unit, (4) nurses use a diversity of reasoning patterns; and (5) reflection on practice is often triggered by a breakdown in clinical judgement and is critical for clinical knowledge development and clinical reasoning management.

These findings are consistent with Gustafsson et al. (2010) who found in their study that long-term experience of nurse specialists in inter-hospital transfer care can help in management and reduce nurses' worries and concerns about clinical adverse events occurring during transfer of critically ill patients. Therefore, transfer nurses should be people who have experience in clinical practice. Experience comes from recognising situations and, over time, developing action strategies for different scenarios. This experience generates benefits for transfer nurses and helps them to make effective decisions in emergency situations.

7.4.3 Seeking help

The third category, 'seeking help,' is a part of the outcome of decision-making surrounding problem-solving to safeguard patients from harm. If a patient's condition suddenly deteriorates, or there are adverse events during the transfer and transfer nurses are uncertain about an appropriate decision, and/or the problems are beyond the nurses' autonomy, the transfer nurse will seek help from their own physician or make a detour to a nearby community hospital. 'Seeking help' leads to a timely intervention for a patient who needs additional pharmacological treatment or invasive procedures to

ensure the best possible chances of survival and to reduce the severity of adverse events.

Referring nurses will seek help using two options. First, they will phone a physician at their hospital because the physician, and other nursing staff, will know the patient's history and treatment record. This reduces time spent repeating the patient's history. Second, if major complications are diagnosed and beyond nursing autonomy (e.g. cardiac or respiratory arrest, decrease of more than two points in GCS Score, life threatening arrhythmias, or if en route there is need of any invasive procedure), the transfer nurse will make a detour to a nearby community hospital to seek help with treatment or advanced life support:

I once accompanied a severe pregnancy-induced hypertension (PIH) patient with another IPD nurse. During the transfer, the patient demonstrated signs of further seizure. My colleague was not confident about administering an additional injection. So, I decided to consult a physician, and the physician ordered us to inject another dose. This helped us. At least we felt relief because sometimes we are unsure in our decision-making whether we are taking right, or proper action, or not. [Maliwan.P3COM1]

Maliwan's extract illustrates that when referring nurses are not certain about performing a treatment, especially in the injection of medication, they can phone to consult the physician-in-charge at their hospital. However, if the patient's condition is beyond nursing autonomy, the transfer nurse will choose to make a detour to a nearby hospital so that the patient can receive appropriate treatment from a physician and other medical team members in order to stabilise the patient before continuing the transfer to the regional hospital. A referring nurse with two years experience in inter-hospital transfer care pointed out:

"When we passed through TT (the name of a small town), around 100 metres further on, the patient became drowsy, and the oxygen saturation level decreased gradually. So, I told the driver to turn back to PNR hospital (the name of a community hospital). On arrival at PNR hospital, the doctor there needed to see the patient's X-Ray film. I informed him that our staff told me she was normal. (...) But the doctor at PNR said he couldn't hear the right side of the patient's lung. He ordered ICD and there was active bleeding of 200 ml. Then, the doctor insisted I go to the REG as fast as possible because, if there was a delay, I might have to visit another (community) hospital on the way." [Kanda.P1COM1]

From Kanda's experience, it can be seen that sometimes a transfer nurse has to accompany a critically ill patient without clear patient information. She does not know the patient well prior to transfer, but curiosity about patient symptoms enabled her to notice that something was wrong. Sometimes it is difficult to describe; it is a kind of personal sense associated with their experience rather than explicit general knowledge. Her curiosity prompted closer observation that revealed that the patient's breath pattern and oxygen saturation level were diminished in both bases. Then, she recognised and interpreted the signs of deterioration in physical health and responded promptly. She maintained the patient's condition by constantly monitoring the patient, including giving oxygen support and information support to the patient until their arrival at a nearby community hospital where the patient received treatment from a physician and his team.

If the transfer nurse decides to detour to an en route community hospital, it is important to know the geography of the area, the location of the ambulance, and the distance from the nearby hospital in order to speedily take the patient for emergency medical intervention. Kanda explained this in practice:

We had to detour to the closest hospital along the way. If the ambulance is in mid-journey, an accompanying nurse has to decide where the closest hospital is located; if you are located beyond Tamul, you have to visit PNR hospital. If not, you have to return to COMI hospital. If located between PNR and MK, such as after KK, you must think which hospital is closest. If you are beyond MK, you would consider which hospital is closest between MK hospital and REG hospital. [Kanda.P1COMI]

'Overcoming adverse events' is a primary aspect of the meaning of quality of transfer care, and it is integral to the provision of quality of transfer care. It can be seen that transfer nurses must be able to manage, as well as prevent, adverse events experienced by a critically ill patient during transfer in order to sustain the patient's condition and save patients' lives. It is crucial that transfer nurses are trained, or have particular knowledge and experience, so that they can grasp the importance of warning signs indicative of deterioration since the patient is in their care. They have to make effective clinical judgements to solve problems in ensuring the patient's safety. It is a core component of the competency of a transfer nurse to ensure patient safety.

7.5 Summary

The emphasis in this chapter has been to demonstrate provision of safe transfer care and behavioural patterns in transfer care processes. The first main theme is to demonstrate habitual patterns that have an impact on care and patient safety during inter-hospital transfer. The second and the third main themes show that the transfer nurses are responsible to maintain the condition of critically ill patients and solve adverse events or complications that might occur while transferring them to the regional hospital.

Within the dynamics of inter-hospital transfer, and the complications that arise with critically ill patients, it can be seen that interview participants share concern about their patients' safety and condition during transfer, and about the transfer care process in terms of keeping patients alive and stable. Transfer nurses are seen to give priority to sharing complete information on patients, rapidly responding to changes occurring to patients, applying the ABCDE approach, and managing risk. These nursing activities include attentiveness to observing patients and early detection of warning signs, decision-making to halt patients' deterioration, and seeking help by consulting a physician or making a detour to a nearby community hospital if the adverse events are beyond nursing autonomy.

On the other hand, there are some behavioural patterns of transfer nurses that could be obstacles to quality and safety. There are probable deficits in care in terms of inadequate pre-transfer risk assessing and transfer nurse allocation, and monitoring and recording during the transfer of critically ill patients. These deficits include undesirable behaviour during the handover process, such as depending too much on transfer letters, judgemental questioning, and ignoring and avoiding input from transfer nurses.

My findings suggest that several changes may be required to improve transfer and handover quality, including standardising pre-transfer risk assessment, transfer allocation, and monitoring and documentation during transfer. Additionally, key

content and supplementary documentation, or templating of written documents, needs to be considered at the time of the patient handover. This would help to minimise handover processes without prejudgement by the referring team, emphasising the role of the handover process in maintaining patient safety, and improving a sense of direct responsibility for handover of patients among the referring and receiving staff members. Furthermore, the three main themes, behavioural patterns in transfer care processes, maintaining the health condition of patients, and overcoming adverse events, highlighted in this chapter have led to the development of a “conceptual framework for quality of inter-hospital transfer care of critically ill patients in Thailand.” This will be outlined in Chapter Eight on page 236.

Chapter Eight: Discussion and Conclusion

8.1 Introduction

This study has employed a focused ethnographical approach to seek a comprehensive view of the experience of transfer nurses concerned with the quality of inter-hospital transfer care for critically ill patients in Thailand. Five major themes have emerged from data analysis: (i) protective factors influencing safe transfer care, (ii) barrier factors influencing safe transfer care, (iii) behavioural patterns in transfer care processes, (iv) maintaining the health condition of the patients, and (v) overcoming adverse events. These themes elaborate upon my discussion about the meaning of quality and patient safety in transfer care, the provision of care to ensure safe transfer, and significant contextual factors that may affect the quality and safety of transfer care for critically ill patients.

In Chapter Eight, I first discuss key findings on how transfer nurses provide their care for critically ill patients during their inter hospital transfer and what context influences their care deliveries. A conceptual framework of safe inter-hospital transfer care based on the Thai cultural context is proposed. I illustrate my theoretical contribution to theoretical conceptual framework. I then deliberate on how the focused ethnographic study illuminates an understanding of transfer nurses' experience. In addition, a declaration of the study's limitations is illustrated. Finally, recommendations for practice, policy makers, education and future research are offered.

8.2 Discussion of the findings

In this section, I discuss how transfer nurses provide their care of critically ill patients during their inter hospital transfer and what context influences their care delivery. The key findings are presented in light of the research questions as follows.

8.2.1 What is the quality of inter-hospital transfer care for critically ill patients transferring from rural community hospitals to a regional hospital in Thailand?

Within the complex and dynamic nature of inter-hospital transfer processes and the complications of critically ill patients, the quality of inter-hospital transfer care for critically ill patients is defined among nurses in this study as ‘patient safety.’ Transfer nurses defined patient safety as keeping patients alive and free from harm or danger, and without adverse events during transfer and at arrival. They said ‘plodphay’ (ปลอดภัย) in Thai which means patient safety. Most transfer nurses sought patient safety at highest levels during their inter-hospital transferring phases and they avoided the development of adverse events in their patients.

Many researchers working in this field view patient safety as a discipline that is integrated into aspects of quality of care (Institute of Medicine, 2000, Berwick, 2002, Vincent, 2010, Wachter, 2018). Quality is generally defined from various perspectives, depending on the context and what people value most; support is explained in studies by Kunaviktikul et al. (2001), Gunther and Alligood (2002) and Burhans and Alligood (2010). These research studies examine the meaning of quality of care and different understanding by nurses in different countries. This can be summarised into four main themes including professionalism and competency of nurses, meeting patients’ needs in a holistic dimension, patient satisfaction, and humanistic care for patients. Both standard of care and patient outcomes are defined in the clinical practice guidelines of inter-facility patient transfer in Thailand in 2014 (National Institute for Emergency Medicine, 2014). Quality of care based on this standard guides of emergency medicine includes airway management, breathing and oxygen management, circulatory management, and spine immobilisation management. The goal of these clinical practice guidelines for inter-hospital transfers is to ensure that all patients receive appropriate transfer care and patients are kept safe. All transfer nurses in this study addressed similar quality of care and patient outcomes as found in the standard clinical practice guidelines of the Ministry of Public Health, Thailand.

From the findings of this research, it appears that transfer nurses develop their understanding of the meaning of quality of care and safety of transfer as ‘patient safety’ from their own experience. This might be because of the characteristics of critically ill patients, the short period of their care involvement, and the limited care capacities (i.e. specialists, investigative tools, ICU beds) in community hospitals; or it might be due to lack of knowledge of a clear definition of international patient safety that makes the transfer nurses weigh the components differently according to their own understanding and experience. The findings of this study challenge the utility of the existing quality and safety of care concept. However, it is important to appreciate the meaning of patient safety and quality of care from transfer nurses’ perspectives. Also, it is important to know how to operate those meanings in practice at both the macro (organisational) level and micro (personal) level in order to share understanding and develop assessment tools for improving quality and safety in the inter-hospital transfer care system.

8.2.2 How do transfer nurses provide quality of care for critically ill patients during inter-hospital transfer from rural community hospitals to a regional hospital in Thailand?

The quality of care that transfer nurses performed was found in two main professional approaches that include maintaining the health condition of critically ill patients; and overcoming adverse events. These findings link to the meaning of quality of transfer, ‘patient safety.’ These professional approaches allow these transfer nurses to preserve patients’ lives and to keep the condition of critically ill patients stable until arrival at the regional hospital. This study builds on established evidence showing that the safety of critically ill patients during transfer is supported by incorporating these safe transfer care approaches.

Sharing complete information about patients prior to transfer is the starting point of effective handover and can enhance communication and care outcomes. Complete patient information provides the receiving staff with vital information that guides immediate decision-making and management of critically ill patients. This is consistent with the assertion by Manser and Foster (2011) that effective patient

handover is important to patient safety by ensuring appropriate management and continuity of care among healthcare providers.

For the pre-transfer preparation and transferring phases, applying the ABCDE approach helps to stabilise the patient. This approach is crucial to preventing decline in physiological functions and any other complications during the transfer (Martin, 2012, Sethi and Subramanian, 2014, Fortune et al., 2017). Consistent with other studies, patients are often inadequately prepared before transfer, but this issue may be corrected through a programme of education and use of a pre-transfer checklist (Wallace and Ridley, 1999, Dunn et al., 2007)

Risk assessment and management prior to transfer also can reduce complications and prevent errors during transfer (Intensive Care Society, 2011). Assessments of the nature of the underlying illness/injuries, and level of risk during transfer of an individual patient is necessary prior to departure. Risk assessment is needed to determine the number of transfer nurses involved and their required knowledge, experience and competencies (Warren et al., 2004, Martin, 2012). This approach maintains quality of care by transfer nurses at the level of care needed by critically ill patients in order to ensure their safety.

Detection of early warning signs of deterioration through attentive observation of the patient is the first stage to prevent harm to the critically ill patient during transfer. Watson and Rebar (2014) state that lack of attentive observation leads to failure to notice and this brings serious consequences. Hence, lack of acute observation has been identified as the main factor for poor standards of nursing care. Also, other evidence has suggested significant adverse events related to human attention or a lack of attentiveness to patient needs; poor advanced medical equipment and poor communication could lead to failure of resuscitation during transfer and compound deterioration that is not recognised or not acted upon properly (Griffiths, 2011, de Almeida et al., 2012, D'Amour et al., 2014, Kalisch et al., 2014).

Furthermore, transfer nurse are often confronted with unexpected adverse events or medical crises related to physiological deterioration during transfer of patients who were in either a stable or unstable condition before transfer. As a result, transfer nurses

should acquire clinical decision-making training as a crucial skill involving experiential knowledge and intuition (Tanner, 2006). Recent research studies report the effective use of clinical guidelines to help the decision-making process when transferring critically ill patients (Warren et al., 2004, van Lieshout et al., 2008). Due to the dynamics and uncertain nature of critical patients' condition, transfer nurses are required to be competent in clinical judgement and decision-making in order to determine the gravity of any situation and the necessity for rapid intervention; to decide what can and should be done for the patient, and in optimising patients' safety during the transfer.

Seeking help is the final approach to saving patients when unexpected adverse events occur during transfer. Seeking help includes calling to consult physicians at the transfer nurses' hospitals and/or detouring to an en route hospital. Seeking help by stopping at the closest hospital in Thailand is a possible strategy used to reduce problems through absence of a physician in the ambulance, or absence of medicine or invasive medical equipment. However, this nursing approach as a strategy for dealing with an unexpected adverse event during transfer may suggest that pre-stabilisation and risk assessment prior to the transfer may have been inadequate. Therefore, there is a need for further study to focus on enhancing the documentation used to record the incident in question, and the adverse events occurring during transfer and at arrival.

These findings are generally compatible with other previous research and recommendations from international care societies (as stated in Chapter Three), but there are several areas in which they differ from others. Especially, 'to detect early warning signs of deterioration through the attentive observation' on the patient, it is embraced as a core feature of mindful practice related to a purposeful, non-anxious and reflective presence that is needed in order to prevent harm to critically ill patients in all stages of inter-hospital transfer care. Also, seeking help by stopping at the closest hospital is obvious in Thailand due to the lack of a physician, of medicine, and of invasive medical equipment in the transfer ambulances. To date, my findings make unique contributions in identifying these care approaches and how they can be addressed.

8.2.3 What are the contextual factors that influence the quality of care during transportation of critically ill patients from rural community hospitals to a regional hospital in Thailand?

These findings show that the contextual factors influencing quality and safety of care can be identified under two categories: protective factors and barrier factors. The protective contextual factors include (i) having responsibility and accountability as a nurse (ii) transfer nurses recruitment through sharing workload, (iii) mentoring support, and (iv) providing a blame-free culture. Five categories can be identified within the barrier factors: (i) shortages in the nursing workforce and their impact (e.g. over-workload, nurse fatigue and sickness), (ii) haphazard training, (iii) inadequate advanced technical resources, (iv) feelings of fear and insecurity, and (v) work constraints on efficient and adequate communication during handover. In this section, I integrate some contextual factors that have similar characteristics and illustrate five categories as follows.

8.2.3.1 Transfer nurse allocation by sharing workload

Transfer nurse allocation by sharing workload across the nursing hierarchy is one of the key findings arising from investigation of shortage of transfer nurses in the inter-hospital transfer system as noted in Chapter Six. Although the general sharing of transfer nurses' shifts can solve the issue of there being no referring nurses to transfer patients, it is a solution via quantity of transfer nurses rather than addressing of the quality of transfer care due to a lack of competency in critical care by non-specialist transfer nurses. For transfer care of critically ill patients, there will be times when transfer nurses' actions could cause harm to the patients if they are not carried out in a careful and competent way. This finding is further substantiated in the literature that critically ill patients will be safer and more effectively delivered to the regional hospital if a specialist transfer team is provided (Bellingan et al., 2000, Ligtenberg et al., 2005, Wiegersma et al., 2011, Chan-Dominy et al., 2012).

Transfer nurses have a crucial role to perform in implementing assessment and rapid response when there is any physiological change, including detection and interpretation of abnormal values, making decisions, and providing appropriate

interventions. Ineffective management, or failure to intervene in a timely manner, can lead to multi-organ failure and increased mortality rates (Shehab et al., 2014). However, the importance of the transfer nurses' role and responsibility in the inter-hospital transfer system, especially in rural community hospital settings, is perhaps being overlooked in the Thai healthcare system. In spite of being, usually, of short duration, inter-hospital transfers seriously affect patient safety (Barry and Ralston, 1994, Blakeman and Branson, 2013).

8.2.3.2 Transfer nurses competencies and training programme

In these findings, it appears that newly registered nurses most often undertake transfer of critically ill patients from community hospitals to the regional hospital in Thailand, but there is not yet a dedicated training course for those involved in inter-hospital transfer care. Additionally, transfer nurses in public community hospitals in Thailand have been challenged by lack of clarity around their role and competencies. Even many research studies associated with safe transfer care recommend that the high risk of deterioration in a patient's clinical condition during transfer requires determining the number and competencies of transfer nurses transferring the patient (Martin, 2012, Bérubé et al., 2013, Sethi and Subramanian, 2014, Kulshrestha and Singh, 2016). Thai transfer nurses have not yet been identified as undertaking a specialist role where they are evaluated by the scope of clinical practice required, nursing education and appropriate training programmes. The issues are not unusual to transfer nurses who may have limited knowledge, skills, and a low competence base. This issue leads to limited provision of quality of care that may fail to take account of the needs of patients.

Another question that arises is how well-prepared are nurses to undertake transfer care? Analysis of data suggests that the role and competency of a transfer nurse needs special training or certification rather than rely on general nurse training. Benner (2001) patterned her work from novice to expert on the Dreyfus Model of Skill Acquisition and found that the model can be generalised to nursing. Benner defines nursing competency as the ability to complete a task with desirable outcomes under the varied circumstances of the actual practice situation. The element of Benner's

model that is concerned with developing nursing skills through situational experience is a prerequisite for expertise. Benner's work on the 'from novice to expert' model (2001) contains five levels to define stages of growth. Benner places competence in the middle of a continuum from novice, advanced beginner, competent nurse, proficient nurse, and expert nurse. The core element of Benner's work asserts the concept that nurses develop skills and understanding of patient care over time through training, or from an educational base as well as from the accumulation of experience (Benner, 2001). Also, the model expresses skill acquisition that is useful in depicting the knowledge base in a specialist nurse or in advanced nursing practice (Brykczynski, 2013). Benner's model could be adopted to identify and apply common competencies and skills in this specialism of transfer nursing.

A generalist is a person competent in several different fields or activities (Castledine, 2005). This contrasts with specialist nurses who focus on a particular area of practice, which is directed towards a distinct target group or a defined area of activity. A specialist nurse also requires to work with high levels of judgement and decision-making in clinical practice (Royal College of Nursing, 2003, Castledine, 2005, Nursing and Midwifery Council, 2005). The ultimate goal of any specialist nurse is to improve holistic patient care by providing a quality, multifaceted care package to patients (Rust, 2009). However, Castledine (2002, 2005) states that there is a danger if nurse specialists display an overreliance on the medical model and the associated technology of their roles. These are the result of a lack of role direction and failure to define the specialist nursing profession. Castledine (2005) suggests that nurses must retain their roles as professional nurses. Specialist nursing must go alongside general nursing and retain the specialist core in the nursing profession. In addition, specialist nurses must find ways of expressing nursing values and skills in patient care.

My study offers suggestive evidence for the need of nursing competencies and training programmes for transfer nursing personnel in community hospitals in Thailand. Healthcare policy makers also need to consider the roles of transfer nurses in terms of specialists or generalists to ensure provision of high quality and safe care.

8.2.3.3 Inconsistent transfer guidelines

This study found that there were inconsistencies of transfer care guidelines/protocols across the three community hospitals. The transfer nurse allocation from all three community hospitals focused on the overall picture of the patients, especially of critically ill patients who were intubated, but there is a lack of assessment of the nature of underlying illnesses/injuries and the levels of risk during transfer of an individual patient. Also, the findings demonstrate that monitoring and recording of patients in the practice of transfer nurses varied in each community hospital depending on the context of the leader in an organisation, and on the individual knowledge, experience and clinical judgement of the transfer nurse. Analysis of the data illustrates that uneven monitoring and management are possibly risking patient safety, in particular in a transfer nurse who is overconfident in decision-making and has made an incomplete observation and monitoring of a critically ill patient during transfer, combined with the varying depth of knowledge and experience in each of the transfer nurses, not all of whom are specially trained for the transfer of critically ill patients. In addition, these factors are all associated with an incomplete organisational structure in developing and implementing clinical guidelines, practices or standard protocols for inter-hospital transfer care. In the existing literature, research studies report the effectiveness of using clinical guidelines to help in the decision process of transferring critically ill patients (Warren et al., 2004, van Lieshout et al., 2008). Therefore, transfer care protocols or clinical guidelines based on evidence-based practice for transfer care should be addressed in order to ensure quality and safety of care provided by transfer nurses. The standard protocols should have been developed by clinical experts and patient panels overseeing the quality and safety programme and the ambulance service panel (London Health Programmes, 2014).

8.2.2.4 Handover issues

The findings noted in Chapters Six and Seven illustrate complaints and negative work relationships among referring and receiving nurses regarding work constraints and behavioural patterns in the handover process (e.g. time pressure, busy working schedule, lack of familiarity with patient information, reliance only on the data in the

transfer letter, questioning perceived as judgment, and ignoring and avoiding). All of these factors are most likely to be significant issues that influence the effectiveness of patient handover from referring nurses of community hospitals to receiving staff of the regional hospital. It also impacts on patient safety.

The functions of patient handover are transfer of information, responsibility of care, and professional responsibility and accountability from one person or a group of professionals to incoming staff members on a temporary or permanent basis (Australian Medical Association, 2006, Patterson, 2008, Manser and Foster, 2011). This study has found that the handover of critically ill patients following transfer is a complex process because it must enable provision of important information for effective decision-making about patients' care. This process has to deal with various styles of patient information and communication methods and it is performed by several staff members and in varying organisational contexts.

Literature (Mast, 2007, Crane and Crane, 2010) reveals that the communication of the nurses who play a part in the handover process differs according to their status in the nursing hierarchy, such as generalist, or nurse manager, and includes their level of expertise, previous experience, and workload. They also use several patterns of communication to co-operate with each other during the handover process depending on their understanding (Manias and Street, 2000, Friesen et al., 2008). Good communication skills, such as listening, questioning, touch, body language and paralinguistics, are grounded in a positive inter-personal relationship. On the other hand, this study has demonstrated that referring and receiving nurses learn to handover in a way that fits with the hospital culture because nurses are not taught during training how to give effective handovers. They have learned how to hand over by observing mentors and peers during practice (Scovell, 2010). This may infer that a social, or organisational context, or handover tool, shapes the handover (Frankel et al., 2012). This may be a reason that why, sometimes, nurses go unrecognised and unacknowledged in the process and purpose of the handover.

Interpersonal conflict was an impact of ineffective handover found in the professional relationships in this study. The findings illustrate the personal, negative, emotional

feeling of ineffectiveness of the handover (e.g. inadequate information, information missed, and insufficient documentation handed over). In a qualitative study regarding nurse relationships, Duddle and Boughton (2007) found that conflicts often involved angry, personal outbursts and suggested that negative emotion may also play a part in conflict. When experiencing the same pattern of ineffective handover every day, receiving nurses inevitably feel conflict. This occurs at interaction due to the needs of the quality of care and handover being unable to coexist. Conflict among nurses involves negative emotional feeling and offensive behaviour caused the incomplete hand-over process of the ward, negligence of their assigned duties, carelessness, work disagreement, lack of cooperation, criticism, undermining, blaming, and sabotaging (Dunn, 2003, Payami Bousari et al., 2009, Wright et al., 2014). Conflicts are associated with quality of patient care (Havens et al., 2010) and job dissatisfaction (Cox, 2001).

Interpersonal conflict is a situation which occurs among the referring and receiving staff members, and is a difficult experience for both sides. Conflict is a process that is triggered by an unexpected or unpleasant event (Payami Bousari et al., 2009). Conflict can result from simple events developing into more complex events, such as the quality of patient management and effectiveness of handover prior to or on arrival at the emergency department of the regional hospital. To confront conflict, some receiving staff decide whether to confront the conflict openly and directly, or to ignore it and withdraw from the situation.

The findings of this research show that ineffective handover is responsible for the outbreak of interpersonal conflicts in transfer nurses. It is necessary to manage this conflict effectively, respecting strategies to remove the causes of such conflicts as well as changing the handover process of referring and receiving nurses. Achievement of quality of care and patient safety requires good communication skills which are associated with effective handover.

8.2.2.5 Blame-free culture

From the findings from this study, it is obvious in one community hospital hospital that a blame-free environment in transfer nurse practices and document recording are positive features that generate comfort and security in transfer nurses. The error and

adverse events reports, which remain blame-free, contribute to the positive quality improvement culture of transfer nurses.

Many studies have found that associations between safety culture and error reporting improve patient safety (Moody et al., 2006, Braithwaite et al., 2010). Some studies have found relationships between patient safety culture and positive patient outcomes, such as reduced adverse events (Naveh et al., 2005) and mortality (Estabrooks et al., 2002). It is evident that remaining blame-free is a part of safety culture that has been suggested as a core component underlying patient safety and effective patient care. ‘Blame-free’ has been implicated as a key factor underlying continuous learning and effective teamwork, as well as a critical driver of safety behaviour such as error reporting, and safety outcomes, such as reduced adverse events (Singer et al., 2009, Braithwaite et al., 2010). It can be seen that healthcare organisations need to create a safety culture and improvements that promote safety, prevent error and provide effective systems that support processes of care and improve outcomes (Twigg and Attree, 2014).

8.3 Development of the conceptual framework for safe inter-hospital transfer of critically ill patients in Thailand

While considering the findings about the quality and safety of transfer care for critically ill patients in Thailand, it is acknowledged that there is an interactive relationship between organisation structures, the processes of care, the context and culture, and the outcome of care throughout the processes of inter-hospital transfer nursing. The main conceptual model of Avedis Donabedian (1966, 1988) incorporated within the concept of context and culture can be applied to form my main conceptual framework.

The Donabedian quality assessment framework is based on three distinct components (structure, process and outcome) (Donabedian, 1966, 1988). He states that the relationships between the three components are usually linear measurement, and the imperative role of the structure of health care is important to the process and outcome. Nonetheless, the linear relation of this triad model is a simplified version of the complexity of the reality in clinical practice, so that certain causes have their own

effects and become causes of subsequent effects (Donabedian, 1988). Therefore, the components are all interlinked (Kunkel et al., 2007, Grossbart and Agrawal, 2012).

Organisational context and culture in healthcare service is another component that should be added in this contemporary conceptual framework. Culture can be defined as the shared values among members of an organisation, about what are their beliefs, about what is important, how things operate in the organisation, and the interaction of these within the work unit and organisational structure and systems. These include behavioural norms in the organisation to promote safety, of both patients and healthcare providers (Pronovost et al., 2009, Singer et al., 2009).

Context and culture are challenges that remain in how to improve healthcare structures, processes and outcomes in healthcare systems. I believe those associated with each type of component will help in-depth understanding about the meaning of quality of transfer care and method of delivery of care for safe inter-hospital transfer of critically ill patients from the perspective of transfer nurses' experiences in Thailand. To illustrate this, a "conceptual framework for quality of inter-hospital transfer care of critically ill patients in Thailand" was developed (refer to Figure 9, page 236). It comprises an integration of the five major themes and twenty-one categories discussed in Chapter Six and Seven. As in Figure 9, I divided this conceptual framework following three phrases of inter-hospital transfer care: pre-transfer phase, transferring phase, and arrival at the receiving hospital phase. The handover process is a link between each phase of the transfer.

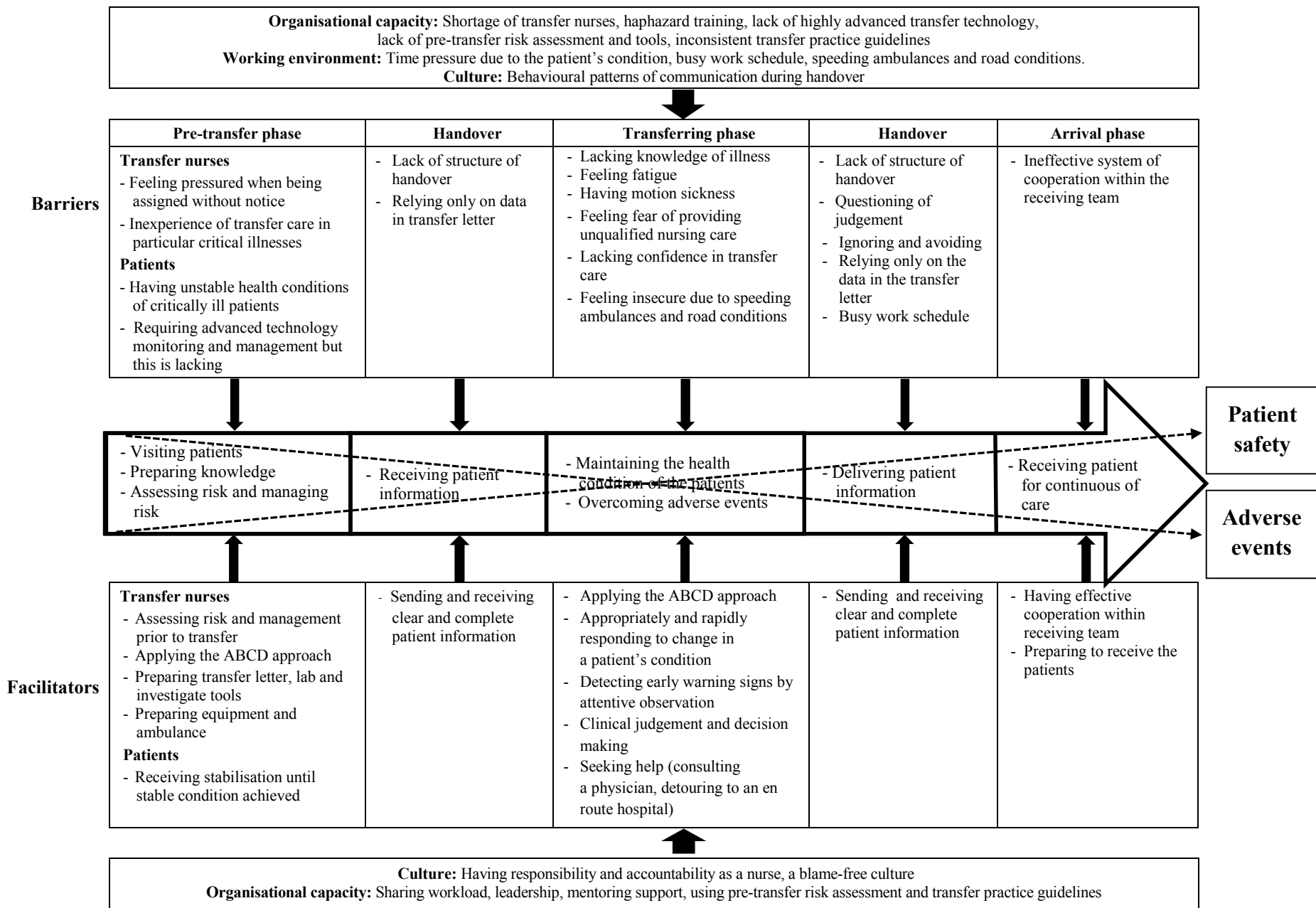


Figure 9: Conceptual framework for quality of inter-hospital transfer care of critically ill patients in Thailand

The detail in this safe transfer care contemporary conceptual framework, from transfer nurses' experience, is explained as follows:

(1) 'Structure' is a setting in rural community hospitals and a tertiary regional hospital where inter-hospital transfer care occurs. Donabedian (1988) focuses on the physical infrastructure (e.g. facilities, tools, supplies) and the structure of organisational capability (e.g. the number and qualification of providers). From the findings of this research, it is evident that structure includes organisational capacity (e.g. organisational policy, available protocol) and provider factors (e.g. having responsibility as a nurse, knowledge and experience, competency, mentoring support, workload, nurse fatigue and motion sickness). These factors are essential structural elements of quality and safety improvement and serve as primary catalysts for processes of care (Glickman et al., 2007, Pronovost et al., 2011). Additionally, factors associated with structure can be facilities and barriers to the process of providing safe care.

(2) 'Process' refers to what is actually done in giving and receiving care during transfer of critically ill patients. Process includes all activities that take place between direct and indirect care for patients (Grossbart and Agrawal, 2012). To save a patient's life and to maintain stability in critically ill patients until arrival at the tertiary centre, transfer nurses provide safe transfer care as follows:

- a. Maintaining the health condition of the patients
 - Managing risk prior to transfer
 - Applying the ABCD approach
 - Appropriately and rapidly responding to change in a patient's condition
- b. Overcoming adverse events
 - Detecting early warning signs by attentive observation
 - Clinical judgement and decision-making
 - Seeking help (consulting physician, detouring to an en route hospital)

It can be seen that the professional skills of transfer nurses are the primary focus of safe transfer care and initiatives that address intra-and inter-profession activities.

(3) 'Outcome' is the result of care. It is what transfer nurses are most concerned about during the inter-hospital transfer care of a critically ill patient (Donabedian, 1966, 1988, Pronovost et al., 2009). During my research, all transfer nurses gave

priority to the safety of patients during transfer, and patient safety from the perspective of transfer nurses is ensuring that the patient is stable upon reaching the destination, and that complications or deterioration do not arise during the journey and at arrival.

(4) 'Context and safety culture' are characteristics of the organisational environment, shared value or beliefs about how things operate in the organisation, and the interaction of these with work units producing behavioural norms in the organisation that promote safety (Singer et al., 2009). From the findings of this research, transfer nurses mention barrier factors influencing safe transfer care in two main components: (i) the context related to organisational capacity (e.g. shortage of transfer nurses, haphazard training, lack of highly advanced transfer resources, lack of pre-transfer risk assessment and tools, and inconsistent transfer guidelines) and (ii) the context associated with working environment (e.g. time pressure from patients' condition, busy work schedule, and speeding ambulances and road conditions). On the other hand, transfer nurses suggest the facilitators of safe transfer. Also, the shared sense of a blame-free culture can be identified as a safety culture with properties under three categories: leadership, habitual patterns of communication, and blame-free culture.

8.4 Reflection on the development of the conceptual framework

The conceptual framework proposed in this study has been expanded from the current knowledge of Donabedian's model (1966, 1988) and the theoretical concepts associated with quality and safety of care from Thai transfer nurses' perspectives. Donabedian's model is a simple construction that not only helps in composition of the delivery of care of inter-hospital transfer under study, but also illustrates how structure, processes and outcome are possible and that there is a causal relation between them. This model illustrates that the structural characteristics of an organisation where transfer care takes place may affect the process of care and quality of care. Changes in the care processes might have an impact on quality and safety of care.

With this theory, I use Donabedian's model (1966, 1988) to generate a conceptual framework because it helps me to see the relationships between the structures, processes, and the outcomes of inter-hospital transfer care and how they may affect quality and safety of transfer care. However, this study provides some evidence that

there are limitations to Donabedian's Model (1966, 1988). For instance, inadequate description of structures, narrow description of processes of care and failure to fully incorporate work context and culture because of changes, and increasing complexities of healthcare in the current system. To illustrate, the findings from this study highlight that providing a blame-free culture is beneficial to producing behavioural norms in a community hospital. A blame-free culture improves safety, both for patients and for transfer nurse personnel. Additionally, I observed that the extended Donabedian model, which includes contextual factors and organisational culture, contributes an explanation of quality of care in terms of processes of care and outcomes, whereas shared language and patterns of behaviour of transfer nurses through using symbolic interactionism (SI) help me to build the conceptual framework that I presented on page 236.

I also examined the organisational context and culture based on SI (Blumer, 1986, Denzin, 1989). SI shapes how I collected, analysed, and presented my data on transfer nurses' experience. SI examines behaviour, language and the daily social interactions of individuals or groups as symbols that construct meanings. This has helped me to identify the symbolic meanings of care provision in order to understand and describe the shared patterns of thought and behaviour (culture) of transfer nurses. SI also provides an insight to culture and the tool with which to probe various cultural beliefs and practices (Fetterman, 2010).

During this study, for example, I found one of the shared behaviours in transfer care is 'relying only on the data in the transfer letter' in the handover process between referring nurses and receiving staff. In many cases, this handover conduct was completely inappropriate because it gave the referring and receiving nurses a sense of conflict, which might have an impact on the continuation of the care of critically ill patients transferred from community hospitals. It can be seen that symbolic and cultural (contextual) construction of behaviour occurs through the relationship between transfer nurses within a group and with other social groups (Morse, 2007). Based on this perspective, transfer nurses' behaviour is socially and culturally influenced and capable of being understood from the perspective of SI.

I hope that this research study will contribute to ensuring the highest possible standards of quality and safety in transfer care, and thereby increase successful outcome levels for critically ill patients from rural communities in Thailand who require inter-hospital transfer to receive specialist intervention.

8.5 Discussion of focused ethnography used in the study

There are several features of focused ethnography that support the development of categories and themes of quality of safe inter-hospital transfer care that is provided by transfer nurses in Thailand. The specific features of the methodology allow me to clearly explore how these nurses provide care to their critically ill patients when transferring them from a community hospital to the regional hospital. The specific features I will discuss in this section include short-term field visits, the use of data recording, inter-subjectivity, and the use of data session features.

A short-term field visit is allowed in the focused ethnography which is the required feature in patient transfer situations because various visits are needed when exploring specific inter-hospital transfer care processes. I made various field visits with transfer nurses, from their preparatory phases to their referring out phases. Each phase took a short period of time for each of my visits, but I applied several data collection methods to ensure that I acquired enough data for analysis.

During short transferring period, applying focused ethnographic methodology allowed me to utilise different data collection methods to gather a large amount of data on actions and interactions of transfer nurses during their transfer duties. The techniques I applied included persistent observation and data recording and note-taking. The large amount of data I collected during each transfer was useful for developing full descriptions of quality of care by the transfer nurses and the context that influenced the care provision, which clearly illustrated how transfer nurses maintain the health condition of their critically ill patients. With this useful feature of focused ethnography, in allowing data to be collected using high technology recording methods in a short period of time, categories and themes could be thoroughly developed in the intensive data analysis process.

Not only are the recorded data useful in the process of categorisation and theme development, but they are also available for other reviewers to access and provide their perspectives easily as they will be able to review data simultaneous to confirming data accreditation during the data session, which supports inter-subjectivity of the use of the focused ethnography. In this study, data from my observation notes, interviews, and document records were used when meeting with my supervisors. The data sessions during the meetings encouraged additional perspectives from other people when reviewing recorded data, resulting in the complete development of categories and themes of the quality of care in this study.

I conclude this thesis by offering analysis on the limitations of the study and recommendations arising from the research.

8.6 Limitations of the study

In this section I explain some important limitations identified in this research. This aims to enhance research transparency and provide some direction for further studies.

Two primary factors potentially affect the analysis and findings of the study. First, my background as a nursing lecturer and critical care nurse might unconsciously generate some biases in the research process (Mays and Pope, 2000, Asselin, 2003). Second, the method of observation and participation in the field often involved manipulation of the participants' natural behaviour (Bryman, 2015). Through reflexivity during the research process and focusing on the research aim, however, the impact of this prior knowledge and experience is made transparent within the research. In addition, use of various forms of multiple methods – observation and field notes, semi-structured interviews, and transfer document reviews – were made within the study. This research approach enhanced the creditability of the study (Mays and Pope, 2000, Casey and Murphy, 2009). I was reassured that I had learned the truth about transfer nurses' experiences throughout the inter-hospital transfer care investigation.

As stated in Chapter Four, one of the criteria for choosing each community hospital setting was in order to achieve 'maximum variation cases.' This criterion aimed to represent multiplicity of reality of the quality and safety of care of various rural

community hospitals. Although the information made clear that all three community hospitals appeared to offer rich data for the purpose of the research, selecting findings to showcase in the study presented challenges. This was because many contextual factors emerged in only one or two hospitals, such as mentoring support and a blame-free culture. I considered presenting findings that represented strengths within this criterion choice. I finally decided to report all findings that emerged in order to illustrate shared patterns among these very different contexts.

The views of stakeholders (e.g. patients and family members, emergency medicine physicians, ambulance drivers) on the quality of care, or the quality outcome in each observation, were not examined. However, I think the perspectives of stakeholders on the quality of transfer care would strengthen this conceptual framework. Follow-up of patients' condition following admission is a vital part of quality of transfer care in clinical practice that needs further examination. Also, the difference between processes and outcomes of quality and safety measurement is worthy of clarification (Wachter, 2018).

As is common in qualitative research, these findings are restricted to the individual participants working in particular hospital settings and located in one area of Thailand. The findings are not necessarily transferable to other populations of nursing professionals in other specific settings or geographic locations. As stated in Chapter Five, however, transferability is dependent upon the degree of similarity between two contexts/cultures that have common features and for which the findings are relevant. Moreover, I gathered data in four different hospital contexts; hence, the findings may be adopted in other settings if required.

8.7 Recommendations

The findings from this research study offer insight into aspects of clinical practice that need to be addressed in order to ensure the quality and safety of transfer care for critically ill patients. They indicate the need for educational and policy support for transfer nurses in order to increase their confidence and competency within the collaborative requirements that are needed to achieve quality and safety during transfer care. Finally, new ideas were generated for further research to enhance practice of

quality and safety goals in inter-hospital transfer. Recommendations are discussed below.

8.7.1 Implications of the findings for practice

Quality and safety in inter-hospital transfer care is an essential goal when critically ill patients need to be transferred to facility hospitals. This study demonstrates that the roles and responsibility of transfer nurses in rural community hospitals are not clearly defined. It is necessary to reduce incidents and adverse events during transfer caused by heavy workload, lack of training of transfer nurses, and limited organisational structures in the rural community hospitals. In particular, there is strong evidence linking fatigue and performance. When transfer nurses are fatigued, they will be less alert and unable to perform efficiently in a variety of psychomotor tasks. The heavy nursing workload associated with extended working hours in the transfer nurses' group must be resolved and therefore needs to be considered at organisational and policy development level. Issues of how to ensure balance to transfer nurses' working hours, health and well-being are key to the provision of quality and patient safety within transfer care.

The study highlights that both referring and receiving hospital settings should formulate flexible clinical guidelines for inter-hospital transfer care that include pre-transfer risk assessment, risk management and adverse event management for high numbers of critically ill patients such as those experiencing respiratory failure, shock, pre-eclampsia, acute myocardial infarction and acute stroke. All members of the multidisciplinary team, physicians and nurses of referring and receiving hospitals should be involved in the development of clinical guidelines. However, development of transfer guidelines' practice may not prove adequate to improve the quality and safety of transfer care of critically ill patients. Focus should be given to organisational change in inter-hospital transfer care by promoting a culture of organisational safety.

Moreover, the data presented at handover meetings illustrates that there are various handover types; some of these were observed to be ineffective handovers associated with habitual patterns in both referring and receiving hospitals. Appropriately adapted

standardised handover tools and behaviour, such as SBAR (a situational briefing mode: Situation-Background-Assessment-Recommendation), or SHARED (a framework to support clinical communication: Situation-History-Assessment-Risk-Expectation-Documentation), should be applied in clinical handovers. These tools are examples of the content structure of handover that can bridge the different communication styles among healthcare providers (Australian Commission on Safety and Quality in Health Care, 2009, Chaboyer et al., 2010, World Health Organization, 2011).

In order to promote a safety culture within an organisation, enhanced communication among members of the teams is essential. The focus should be on improving the documentation for the reporting of incidents and adverse events during transfers and at arrival. In order to improve quality of transfer care, organisational systems should promote self-reflection in both referring and receiving contexts and at the clinical team level in order to stimulate an organisational check or analysis to identify information gaps and maintain safety within transfer care.

8.7.2 Implications of the findings for policy

In order to optimise successful patient outcomes, recent research supports the concept of a special retrieval team to transfer critically ill patients, which should constitute a well-staffed and well-rested workforce to deliver safe care in clinical practice (Bérubé et al., 2013, Abdullah et al., 2017). Therefore, the Thai Nursing Council needs to protect nurses by addressing overtime hours and by controlling working hours if it is to ensure and improve quality and safety of care.

The findings of this study confirm that there is a need to identify and implement a competency-based regulatory model that includes a specialist nurse in the provision of inter-hospital transfer care of a critically ill patient in order to ensure autonomy in carrying out the necessary advanced care and procedures. Benner's model could be adopted to apply and identify common competencies and skills in this extended role by transfer nurses. In addition, the issue of legal (responsibility) and ethical (accountability) implications of extending the nursing roles of transfer nurses must be examined by policy makers.

In addition, it be implied that there is no obvious training in place to deal with inter-hospital transfer care of critically ill patients in community hospital settings. The system of education, training and development for transfer personnel organised by regulatory bodies (e.g. the NIEM, the Ministry of Health) should comply with a specially designed education programme implemented by nursing workforce management in the context of those community hospital settings.

8.7.3 Recommendations for education

This study advocates the need for specialised knowledge and skills in the inter-hospital transfer process, especially by road ambulance, when using referring nurses from rural community hospitals. Development of an integrated education programme specifically focused on inter-hospital transfer care, not previously used in either of the settings, and aimed at both referring and receiving staff, is required. Transfer nurses themselves highlighted that further education on this particular topic would increase their confidence in providing transfer care.

The study reveals the importance of contextual factors (e.g. transfer nurses' workload, fatigue and sickness, leadership, training, feelings of fear and security), transfer care behaviour, and safe care provision influencing the quality and safety of transfer care. Therefore, it is important to include these important elements in this programme of education. Consideration of the organisational context and culture are critical in optimising quality and safety of care. Also, the scope of inter-hospital transfer needs to be broadened to incorporate the complexity and diversity of transfer care processes so that learners can appreciate these significant factors and can become better equipped to deal with them.

Essential elements that should be included in the development of an educational programme will address levels of competence and will be directed at transfer nurses. I believe that this programme will enhance transfer nurses' knowledge and skills and will increase their confidence in autonomous care.

8.7.4 Recommendations for research

The research highlights areas within the quality and safety of transfer care that demand further exploration. This study suggests that quality and safety in transfer care should not be viewed as an isolated idea, notably because the processes of care, and context and culture of an organisation are very influential. This includes strengthening of key stakeholders' adherence to transfer care practice that needs to be achieved.

In this study I have investigated the quality and safety of transfer care in the context of four hospital settings in the eastern-part of Thailand. There is a need for further studies to explore the implication of the conceptual framework from transfer nurses' perspectives in other hospital settings in the country. This would help to gain greater understanding, and offer an opportunity to develop the conceptual framework for quality and safety of transfer care elsewhere. Quantitative research should also be conducted, based on the findings of this study, in order to examine the correlation between the contextual factors and quality and safety of transfer care on a large scale.

Furthermore, a patient's condition, and incidents and adverse events that occur during transfer and on arrival at the destination, need to be investigated, especially when patients require to divert to the closest hospital during transfer. Understanding the effects of transfer practice on patient outcomes will allow the development of techniques that improve the quality of transfer care. The ethnographic study approach can be employed to understand these aspects, and can be used to inform intervention studies that aim to change the culture of the transfer care service.

Suggested future research should focus on the investigation of handover and collaborative care during inter-hospital transfer of patients with critical illnesses between rural community and tertiary hospital staff. This study also suggests that roles of leadership influencing safe transfer culture should be further explored.

Finally, future research should involve the development of evidence-based transfer guidelines and recording documents stratified to particular patient cases requiring critical care. These elements should be developed within a multidisciplinary team and between referring nurses of community hospitals and receiving staff of tertiary

regional hospitals. In order to understand the adherence of referring and receiving staff during their intervention, and its embodiment within the context of both referral and receiving processes, an action research approach may be best suited to this programme.

8.8 Conclusion

This focused ethnographic study has expanded current theoretical knowledge of the quality and safety of care by elaborating patterns of thought and behaviour of transfer nurses during provision of care throughout the processes of the inter-hospital transfer. Thai transfer nurses have explained the meaning of quality of transfer care as being patient safety. Patient safety from transfer nurses' perspectives refers to the stability of a patient's condition during transfer and upon arrival at the receiving hospital. To save a patient's life, and to maintain the stability of critically ill patients until arrival at the regional hospital, transfer nurses highlighted two essential nursing practices: (1) maintaining the health condition of patients (e.g. through sharing complete information, managing risk prior to transfer, applying the ABCD approach, and responding speedily and appropriately to change in a patient's condition), and (2) overcoming adverse events (e.g. detecting early warning signs by attentive observation, clinical judgement and decision making, and seeking help by calling to a physician, or by detouring to an en route hospital). In this respect, the investigation has described how referring nurses deal with adverse events and complications occurring with critically ill patients during transfer.

The findings also highlight the limitations of organisational structures, context and shared patterns of care behaviour under which transfer work takes place. These limitations consist of shortage of transfer nurses, workload and sickness, haphazard training, inadequate advanced technical resources, lack of pre-transfer risk assessment, unstructured guidelines on transfer procedures, time pressure, speeding ambulances and road conditions, and habitual patterns of communication. Providing structure and context includes having responsibility and accountability as a nurse, sharing the workload of transfer assignments, benefitting from mentoring support and leadership, and being able to work in a blame-free environment.

Outcomes will lead to nurses having greater understanding of improved quality of care and patient safety during their transfer of critically ill patients from community hospitals. The findings of this thesis should be of interest to hospital administrators, nursing executives, nurse practitioners, and policy makers involved in inter-hospital transfer. These findings extend knowledge of the field by showing how transfer nurses provide safe transfer care and how these procedures can be developed. I hope that this research study will contribute to ensuring the highest standards of quality and safety of transfer care, and thereby increase successful outcome levels for critically ill patients from rural communities in Thailand who require inter-hospital transfer to receive specialist intervention.

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Appendixes

Appendix A: A summary of the reviewed literature

Table 14: Results of the search performed in CINAHL and DiscoverED

No.	Search statement	CINAHL	DiscoverED
1	Quality of care OR quality of health care OR quality of nursing care OR quality of patient care	28,369	1,485,509
2	Patient safety OR safety	10,305	652,396
3	Inter-hospital (interhospital) transfer OR patient transfer OR transfer of patients	125	1,596
4	Critical patient OR critical care OR critical ill OR intensive care	10,502	349,412
5	Transfer nurses OR Nurses	789	44,737
6	3 AND 4	14	454
7	1 OR 2 AND 3 AND 4 combined	5	190
8	1 OR 2 AND 3 AND 4 AND 5 combined	2	110

Note: This searching was undertaken in April 2018
Published during 2000-2018
Prior to merging and removing duplicates

Appendix B: Ethical approval from the University of Edinburgh Ethics Committee

The University of Edinburgh
College of Humanities and Social Science

SCHOOL OF HEALTH IN SOCIAL SCIENCE

APPROVAL BY SUBJECT AREA RESEARCH ETHICS TEAM/ CO-ORDINATOR (LEVEL 2)

Name/s of Researcher/s:	Busarin Eiu-Seeyok
Proposed Title of Research:	An Exploration of Delivery of Care for Safe Inter-hospital Transfers of Critically Ill Patients from Rural Community Hospitals to a Tertiary Hospital in Thailand
Funding Body (if appropriate):	The Royal Thai Government
General Comments:	
Outcome:	APPROVED
If approved with conditions, name of person to oversee these:	
<p>The above research proposal has been approved by the subject area research ethics team/co-ordinator.</p> <p>Signed: <i>(Lorna Sheal on behalf of Dr Graeme Smith)</i></p> <p>Date: 09/08/11</p>	

Proposal Approved with Conditions. See below:

NO CONDITIONS

Appendix C: Ethical approval from the tertiary regional (REG) hospital in Thailand (in English)

Approval Form

NO 15/2011

Study Protocol, Patient Information and Consent Form Approval

The Ethics Committee of [REDACTED] Hospital [REDACTED] Thailand has approved the following study to be carried out according to the protocol, patient information and consent form dated and/or amended as follows:

Study Title : An Exploration of Delivery of Care for Safe Inter-hospital Transfers of Critically Ill Patients from Rural Community Hospitals to a Tertiary Hospital in Thailand.

Study : Busarin Eiu-Seeyok

Centre : [REDACTED] Hospital

Principal Investigator : -

Protocol Date : 29 Jul, 2011

Amendment (S) Included : -

Amendment (S) Date (S) : Sep 7, 2011

A list of the Ethics Committee members (names and positions) present at the Ethics Committee meeting on the date of approval of this study has been attached.

This Approval Form will be forwarded to the Principal Investigator.

Chairman of Ethics Committee

[REDACTED]
([REDACTED])

Director of [REDACTED] Hospital

[REDACTED]
([REDACTED])

Date of Approval

9th September 2011

Note: For reasons of confidentiality, the name of hospitals and of the name of the letter signatory have been redacted.

Appendix D: Ethical approval from the tertiary regional (REG) hospital in Thailand (in Thai)



แบบรายงานผลการพิจารณาอนุมัติในการเก็บข้อมูลเพื่อการวิจัย

1. ชื่อเรื่อง(ภาษาไทย) การค้นหาคุณภาพการดูแลเพื่อความปลอดภัยระหว่างการส่งต่อผู้ป่วยวิกฤต
ระหว่างโรงพยาบาลชุมชนถึงโรงพยาบาลศูนย์ในประเทศไทย
- ชื่อเรื่อง(ภาษาอังกฤษ) An Exploration of Delivery of Care for Safe Inter-hospital Transfers of
Critically Ill Patients from Rural Community Hospitals to a Tertiary
Hospital in Thailand
2. ชื่อผู้วิจัย บุศริน เอื้อวสีหยก
3. หน่วยงานที่สังกัด วิทยาลัยพยาบาลพระปกเกล้า จันทบุรี
4. ผลการพิจารณาอนุมัติในการเก็บรวบรวมข้อมูลเพื่อการวิจัย
(☒) อนุมัติ
(☐) ไม่อนุมัติ
5. วันที่ได้รับการอนุมัติ 14 เดือน ตุลาคม พ.ศ. 2554

ลงนาม [Redacted Signature]

([Redacted Name])

ประธานคณะกรรมการพิจารณาจริยธรรมการวิจัย

ลงนาม [Redacted Signature]

([Redacted Name])

ผู้อำนวยการ [Redacted Name]

Note: For reasons of confidentiality, the name of hospitals and of the name of the letter signatory have been redacted.

Appendix E: Data collection permission from COM1 hospital in Thailand



[Redacted]

[Redacted]
[Redacted]
[Redacted]

Thailand

25 October 2011

Prof Kath M Melia
Professor of Nursing Studies
Nursing Studies
School of Health in Social Science
University of Edinburgh
Medical School, Teviot Place,
Edinburgh EH8 9AG
United Kingdom

Dear Prof Melia,

In the letter dated 28th September 2011, Ms Busarin Eiu-Seeyok, Ph.D. research student, Nursing Studies at the School of Health in Social Science, College of Humanities and Social Science, University of Edinburgh, requested permission to collect data for her study entitled 'An exploration of delivery of care for safe inter-hospital transfers of critically ill patients from rural community hospitals to a tertiary hospital in Thailand'. Ms Eiu-Seeyok is supervised by Professor Kath M Melia and Dr Susanne Kean from the University of Edinburgh, UK.

I am pleased to inform you that access to the study site for data collection purposes has been granted to Ms Busarin Eiu-Seeyok.

Your Sincerely,

[Redacted Signature]

([Redacted])

Hospital Director

[Redacted]

Note: For reasons of confidentiality, the name of hospitals and of the name of the letter signatory have been redacted.

Appendix F: Data collection permission from COM2 hospital in Thailand



[Redacted]

[Redacted]
[Redacted]
[Redacted]
[Redacted]

Thailand

25 October 2011

Prof Kath M Melia
Professor of Nursing Studies
Nursing Studies
School of Health in Social Science
University of Edinburgh
Medical School, Teviot Place,
Edinburgh EH8 9AG
United Kingdom

Dear Prof Melia,

In the letter dated 28th September 2011, Ms Busarin Eiu-Seeyok, Ph.D. research student, Nursing Studies at the School of Health in Social Science, College of Humanities and Social Science, University of Edinburgh, requested permission to collect data for her study entitled 'An exploration of delivery of care for safe inter-hospital transfers of critically ill patients from rural community hospitals to a tertiary hospital in Thailand'. Ms Eiu-Seeyok is supervised by Professor Kath M Melia and Dr Susanne Kean from the University of Edinburgh, UK.

I am pleased to inform you that access to the study site for data collection purposes has been granted to Ms Busarin Eiu-Seeyok.

Your Sincerely,

[Redacted]
[Redacted]
Hospital Director
[Redacted]

Note: For reasons of confidentiality, the name of hospitals and of the name of the letter signatory have been redacted.

Appendix G: Data collection permission from COM3 hospital in Thailand



[REDACTED]
[REDACTED]
[REDACTED]
Thailand

25 October 2011

Prof Kath M Melia
Professor of Nursing Studies
Nursing Studies
School of Health in Social Science
University of Edinburgh
Medical School, Teviot Place,
Edinburgh EH8 9AG
United Kingdom

Dear Prof Melia,

In the letter dated 28th September 2011, Ms Busarin Eiu-Seeyok, Ph.D. research student, Nursing Studies at the School of Health in Social Science, College of Humanities and Social Science, University of Edinburgh, requested permission to collect data for her study entitled 'An exploration of delivery of care for safe inter-hospital transfers of critically ill patients from rural community hospitals to a tertiary hospital in Thailand'. Ms Eiu-Seeyok is supervised by Professor Kath M Melia and Dr Susanne Kean from the University of Edinburgh, UK.

I am pleased to inform you that access to the study site for data collection purposes has been granted to Ms Busarin Eiu-Seeyok.

Your Sincerely,

[REDACTED]
[REDACTED]
([REDACTED])
Hospital Director
[REDACTED]

Note: For reasons of confidentiality, the name of hospitals and of the name of the letter signatory have been redacted.

Appendix H: Information sheet for participants (in English)



Nursing Studies
SCHOOL OF HEALTH IN SOCIAL SCIENCE
The University of Edinburgh
Medical School
Teviot Place
Edinburgh EH8 9AG
Telephone 0131 650 3889
Fax 0131 650 3891

An Exploration of Delivery of Care for Safe Inter-hospital Transfers of Critically Ill Patients from Rural Community Hospitals to a Tertiary Hospital in Thailand

Information sheet for Participants

You are being invited to participate in a research study. However, before you decide whether to accept this invitation it is important that you know what this study is about, why it is being undertaken and what it will involve. Please take the time to read this information and feel free to discuss this with other people. Please do not hesitate to contact me if there is anything that is not clear or if you would like more information. My contact details are given at the end of this sheet. Please take time to decide whether or not you would like to take part in this study.

Study title:

An exploration of delivery of care for safe inter-hospital transfers of critically ill patients from rural community hospitals to a tertiary hospital in Thailand

What is this study about?

The study will explore the delivery of care for safe inter-hospital transfers of critically ill patients from rural hospitals to a regional hospital in Thailand.

Why is this study being carried out?

While policy makers and emergency health care providers recognise the importance of good delivery of care of inter-hospital transfer for critically ill patients, there is at present very little understanding how this occurs in community hospitals. I would like to explore with you your views on the quality of care of inter-hospital transfer for critically ill patients in the area you work.

What will the study result be used for?

The study will provide an understanding of the quality of care, and the facilitators and impediments to quality of care in order to improve the quality of clinical practice during transfer of critically ill patients in Thailand. It is hoped that health care providers will use the findings to ensure that there

is an appropriate inter-hospital transfer system for their own population. Also, policy makers could utilise the result from this study to allocate and/or reallocate budget and personnel for improving the safety of the transferring services and emergency care.

Who is organising and funding the study?

The study is organised by a doctoral research student in the School of Health in Social Science at The University of Edinburgh. The study is funded by the Thai Royal Government.

Why have I been chosen?

In order to explore the delivery of care for safe inter-hospital transfers of critically ill patients from rural hospitals to a regional hospital, accompanying nurses who are working at an accident and emergency department in community hospitals and a tertiary hospital will be asked to be participants in this study.

Who is involved in the study?

The study is led by a nurse who is a doctoral research student from the School of Health in Social Science at The University of Edinburgh, UK.

Do I have to take part?

Your participation is entirely voluntary. Whether you choose to take part or not will not affect you in any way. If you decide to take part, you will be given this information sheet to keep and you will be asked to sign a consent form.

What would I have to do?

If you decide to take part it would involve meeting with me as the researcher (Ms Busarin Eiu-Seeyok) for an interview of approximately 40-60 minutes. The interview will take place at a time and location of your convenience. With your permission, I would like to digital recording the interview for later data analysis.

What happens to the information?

All information obtained is confidential and will be anonymised. In some instances, your comments may be reported directly in the study whilst maintaining your anonymity. No one will be able to identify you from the study. The notes, digital recordings and transcripts will be kept securely and only the researcher, supervisors and the external and internal examiners will have access to them. Notes, recordings and transcripts will only have codes and not names in order to safeguard confidentiality. The data will be used for research purposes only and will be stored securely until it is deleted and destroyed after approximately 6 years.

Are there possible benefits or risks in taking part?

In taking part you ensure that your voice is heard on the issue but apart from that there are no benefits or risks in taking part.

Can I change my mind?

Yes, you can. Even if you agree to participate you are still free to withdraw from the study at any time. Just let me know. You do not need to give me any reason for this change of mind.

What will happen to the results of the study?

Upon the completion of the research the findings will be published as a thesis and held in University of Edinburgh Library. Articles will also be submitted for publication in relevant academic journals.

How can I contact the researchers to take part in this study or to get further information?

Please contact me if you want to take part in the study or have any further questions at:

Busarin Eiu-Seeyok

Phrapokklao Nursing College, Chantaburi

e-mail s1048740@sms.ed.ac.uk or busarin@pnc.ac.th

Mobile phone: +66 [REDACTED] (Thailand), +44 [REDACTED] (United Kingdom)

Phone +6639 330 073 ext.1209 (Thailand)

I will contact you to discuss the study further.

If you wish to speak to someone who is not involved in this study about this study, please contact:

Ms. Emily Gribbin

e-mail: Emily.Gribbin@ed.ac.uk

Telephone: +4413 1650 3889

School of Health in Social Science

The University of Edinburgh

Medical School, Doorway6

Teviot Place

Edinburgh EH8 9AG

Thank you for taking the time to read this information sheet. We are very grateful for your participation in this study.

Yours sincerely,

(Ms. Busarin Eiu-Seeyok)

Researcher Ph.D. student

Note: The researcher's mobile phone number has been redacted as this is personal information.

Appendix I: Information sheet for participants (in Thai)



Nursing Studies
SCHOOL OF HEALTH IN SOCIAL SCIENCE
The University of Edinburgh
Medical School
Teviot Place
Edinburgh EH8 9AG
Telephone 0131 650 3889
Fax 0131 650 3891

เอกสารชี้แจงข้อมูลสำหรับผู้เข้าร่วมงานวิจัย

เรื่อง

การค้นหาคุณภาพการดูแลเพื่อความปลอดภัยของการส่งต่อผู้ป่วยวิกฤต
ระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ในประเทศไทย

**(An Exploration of Delivery of Care for Safe Inter-hospital Transfers of Critically Ill
Patients from Rural Community Hospitals to a Tertiary Hospital in Thailand)**

ท่านกำลังถูกเชิญให้เข้าร่วมในการศึกษาวิจัยนี้ แต่ก่อนที่ท่านจะตัดสินใจเข้าร่วมในการศึกษาวิจัยนี้ ท่านควรพิจารณาว่าการศึกษานี้เป็นการศึกษาเกี่ยวกับอะไรและมีกระบวนการศึกษาอย่างไร ขอความกรุณาท่านใช้เวลาในการอ่านเอกสารนี้ และปรึกษาหารือกับคนอื่น ๆ ก่อนที่จะตัดสินใจเข้าร่วมในการศึกษา และกรุณาอย่าลังเลที่จะสอบถามหรือติดต่อสอบถามดิฉันหากมีข้อสงสัยใดๆ โดยรายละเอียดในการติดต่อดิฉันจะอยู่ในด้านท้ายของเอกสารนี้

หัวข้อที่ศึกษา :

การค้นหาคุณภาพการดูแลเพื่อความปลอดภัยของการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ในประเทศไทย

หัวข้อนี้เป็นการศึกษาเกี่ยวกับอะไร

การศึกษานี้เป็นการค้นหาการให้การดูแลเพื่อความปลอดภัยของการส่งต่อผู้ป่วยระหว่างโรงพยาบาลในผู้ป่วยวิกฤตจากโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ในประเทศไทยโดยใช้งานวิจัยเชิงคุณภาพ

ทำไมจึงต้องศึกษาเรื่องนี้

ในขณะที่ผู้กำหนดนโยบายและบุคลากรทางสุขภาพในหน่วยบริการการแพทย์ฉุกเฉินตระหนักถึงความสำคัญของคุณภาพการดูแลผู้ป่วยวิกฤตระหว่างการส่งต่อผู้ป่วยระหว่างโรงพยาบาล

แต่ในปัจจุบันมีการศึกษาและมีความเข้าใจน้อยมากเกี่ยวกับการให้การดูแลผู้ป่วยวิกฤตระหว่างการส่งต่อระหว่างโรงพยาบาลโดยเฉพาะจากบุคลากรในโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ ทำให้ดิฉันมีความสนใจที่จะศึกษาเพื่อการค้นหาคุณภาพการดูแลระหว่างการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลในมุมมองของท่านจากประสบการณ์ที่ท่านปฏิบัติงานมา

ผลการศึกษานี้ใช้สำหรับอะไร?

การศึกษานี้คาดหวังว่าจะสามารถให้ความเข้าใจเกี่ยวกับคุณภาพการดูแล สิ่งสนับสนุน และอุปสรรคที่มีต่อคุณภาพการดูแลของการส่งต่อผู้ป่วยระหว่างโรงพยาบาล เพื่อใช้เป็นข้อมูลพื้นฐานในการปรับปรุงคุณภาพการปฏิบัติงานระหว่างการส่งต่อผู้ป่วยวิกฤตในประเทศไทย ผู้วิจัยคาดหวังว่าบุคลากรสุขภาพที่เกี่ยวข้องจะใช้ข้อค้นพบจากการศึกษานี้เพื่อให้ความมั่นใจว่าระบบส่งต่อผู้ป่วยระหว่างโรงพยาบาลสำหรับประชาชนในเครือข่ายพื้นที่ของตนเองนั้นมีความเหมาะสม นอกจากนี้สำหรับผู้กำหนดนโยบายจะสามารถใช้ผลการศึกษาเพื่อการจัดสรร และ/หรือ พิจารณาจัดสรรงบประมาณและบุคลากรใหม่ในการปรับปรุงบริการการส่งต่อผู้ป่วยระหว่างโรงพยาบาลหรือการดูแลผู้ป่วยฉุกเฉินให้มีคุณภาพเพิ่มขึ้น

หน่วยงานและเงินทุนที่ให้การสนับสนุนการศึกษานี้

การศึกษานี้จัดทำโดยนักศึกษาซึ่งได้รับทุนรัฐบาลไทย เพื่อศึกษาในระดับปริญญาเอก สาขาพยาบาลศาสตร์ ณ School of Health in Social Science, University of Edinburgh สหราชอาณาจักร

เพราะอะไรฉันจึงได้รับเลือกให้เข้าร่วมในการศึกษานี้

เพื่อการค้นหาการให้การดูแลเพื่อความปลอดภัยระหว่างการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลจากโรงพยาบาลชุมชนถึงโรงพยาบาลศูนย์ พยาบาลที่นำส่งผู้ป่วยและพยาบาลที่รับผู้ป่วยที่ปฏิบัติงาน ณ แผนกอุบัติเหตุและผู้ป่วยฉุกเฉินของโรงพยาบาลชุมชนและโรงพยาบาลศูนย์จะได้รับการสอบถามเพื่อเข้าร่วมในการศึกษานี้

ใครที่เกี่ยวข้องในการศึกษานี้

การศึกษานี้จะเก็บข้อมูลโดยผู้วิจัยซึ่งเป็นนักศึกษาระดับปริญญาเอกจาก School of Health in Social Science, University of Edinburgh สหราชอาณาจักร

ท่านต้องเข้าร่วมในการศึกษาหรือไม่

การเข้าร่วมในการศึกษานี้จะกระทำด้วยสมัครใจของท่านเท่านั้น ไม่ว่าท่านจะเลือกที่จะเข้าร่วมในการศึกษาหรือไม่เข้าร่วมในการศึกษา จะไม่มีผลใดๆ กระทบต่อท่าน หากท่านตัดสินใจเข้าร่วมในการศึกษานี้ ท่านจะได้รับเอกสารชี้แจงข้อมูลเกี่ยวกับการทำวิจัย (เอกสารฉบับนี้) เพื่อเก็บไว้ และท่านจะถูกขอให้อัปโหลดชื่อในเอกสารยินยอมเข้าร่วมงานวิจัย

ท่านจะต้องทำอะไรบ้าง

หากท่านตัดสินใจที่จะเข้าร่วมในการศึกษา ท่านจะได้รับการติดต่อจากผู้วิจัย (นางสาวบุศริน เอี้ยวสีหยก) สำหรับการสัมภาษณ์ประมาณ 40-60 นาที การสัมภาษณ์จะใช้สถานที่และในเวลาที่ท่านสะดวก และหากท่านอนุญาต ผู้วิจัยจะขอบันทึกการสัมภาษณ์ด้วยเครื่องบันทึกเสียงแบบดิจิทัลเพื่อการวิเคราะห์ข้อมูลในภายหลัง

อะไรจะเกิดขึ้นกับข้อมูล

ข้อมูลที่ได้รับทั้งหมดเป็นความลับและไม่เปิดเผยชื่อของท่าน บางกรณีข้อมูลของท่านอาจจะถูกรายงาน ในรายงานการศึกษาโดยที่ไม่เปิดเผยชื่อของท่านและไม่มีใครจะสามารถระบุตัวท่านจากการศึกษาได้ บันทึกต่างๆ เสียงที่ถูกบันทึก และเอกสารที่ถอดเทปจะถูกเก็บไว้อย่างปลอดภัยและมีเพียงผู้วิจัย อาจารย์ที่ปรึกษาของผู้วิจัย และผู้ตรวจสอบภายนอกที่จะเข้าถึงข้อมูลได้เท่านั้น นอกจากนี้บันทึกต่างๆ เสียงที่ถูกบันทึกและเอกสารที่ถอดเทปจะถูกบันทึกโดยรหัส ไม่มีชื่อของผู้เข้าร่วมศึกษา เพื่อเป็นการรักษาความลับข้อมูลที่ได้รับจะถูกใช้เพื่อวัตถุประสงค์ในการวิจัยเท่านั้นและจะถูกเก็บไว้อย่างปลอดภัยจนกว่าจะมีการลบและทำลายหลังจากการศึกษาประมาณ 6 ปี

ท่านได้ประโยชน์หรือมีความเสี่ยงเมื่อเข้าร่วมศึกษาหรือไม่?

ท่านมั่นใจได้ว่าข้อมูลของท่านจะมีความสำคัญยิ่งในการศึกษา แต่นอกเหนือจากนั้นท่านจะไม่ได้รับประโยชน์หรือมีความเสี่ยงจากการศึกษาแต่อย่างใด

ท่านสามารถเปลี่ยนความคิดของท่านได้หรือไม่

ท่านสามารถเปลี่ยนความคิดของท่านได้ แม้ว่าท่านจะตกลงเข้าร่วมในการศึกษาแต่ท่านมีความอิสระที่จะถอนตัวออกจากการศึกษาในเวลาใดก็ได้ เพียงแต่แจ้งให้ผู้วิจัยทราบว่าท่านจะถอนตัวจากการศึกษาเท่านั้น และท่านไม่จำเป็นต้องให้เหตุผลใดๆ ต่อการเปลี่ยนแปลงการตัดสินใจนี้

อะไรจะเกิดอะไรขึ้นกับผลการศึกษา

เมื่อเสร็จสิ้นการศึกษานี้ ผลการศึกษานี้จะถูกตีพิมพ์เพื่อเป็นส่วนหนึ่งของวิทยานิพนธ์และจะถูกเผยแพร่ ณ ห้องสมุดของมหาวิทยาลัยเอดินบะระ (University of Edinburgh, UK) และจะถูกเผยแพร่ในบทความในวารสารวิชาการที่เกี่ยวข้องต่อไป

ท่านจะติดต่อกับผู้วิจัยเพื่อให้ได้ข้อมูลเพิ่มเติมได้อย่างไร

กรุณาติดต่อผู้วิจัยหากท่านต้องการมีส่วนร่วมในการศึกษาหรือมีคำถามเพิ่มเติมใดๆ ได้ที่
บุศริน เอียวสีหยก

วิทยาลัยพยาบาลพระปกเกล้า จันทบุรี

36 ถ.เลียบเนิน ต.วัดใหม่ อ.เมือง จ.จันทบุรี 22000

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โทรศัพท์ 039-330073 ต่อ 1209

โดยผู้วิจัยจะติดต่อท่านกลับเพื่อหารือเกี่ยวกับการศึกษาต่อไป

ถ้าท่านต้องการที่จะพบกับคนที่ไม่ได้เกี่ยวข้องกับการศึกษานี้ กรุณาติดต่อ

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School of Health in Social Science

The University of Edinburgh

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ขอบคุณสำหรับการสละเวลาในการอ่านเอกสารนี้ ผู้วิจัยขอขอบคุณสำหรับการเข้าร่วมในการศึกษาของท่าน

ขอแสดงความนับถือ

นักศึกษาปริญญาเอก

หมายเหตุ เบอร์มือถือของผู้วิจัยได้รับการแก้ไขด้วยการปิดทับด้วยเส้นดำทึบเนื่องจากเป็นข้อมูลส่วนบุคคล

Appendix J: Consent form (in English)



Nursing Studies
SCHOOL OF HEALTH IN SOCIAL SCIENCE
The University of Edinburgh
Medical School
Teviot Place
Edinburgh EH8 9AG
Telephone 0131 650 3889
Fax 0131 650 3891

CONSENT FORM: INTERVIEW

Title of Study: An Exploration of Delivery of Care for Safe inter-hospital Transfers of Critically Ill Patients from Rural Community Hospitals to a Tertiary Hospital in Thailand

Name of Researchers: Ms. Busarin Eiu-Seeeyok, Ph.D. in Nursing Studies

Name of Supervisors: Prof. Kath M. Melia and Dr. Susanne Kean

Please initial box

1. I confirm that I have read the information sheet for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason. ☐
3. I understand that the interview will be recorded and that this recording will be used for research purposes only. ☐
4. I understand that findings will be published after completion of the study and that I will not be identified in any publication or report. ☐
5. I agree to take part in the above study. ☐

_____	_____	_____
Name of Participant	Signature	Date

_____	_____	_____
Name of Researcher	Signature	Date

Appendix K: Consent form (in Thai)



Nursing Studies
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Telephone 0131 650 3889
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หนังสือยินยอมเข้าร่วมงานวิจัย: การสัมภาษณ์

หัวข้องานวิจัย: การค้นหาคุณภาพการดูแลเพื่อความปลอดภัยของการส่งต่อผู้ป่วยวิกฤต
ระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ในประเทศไทย
ชื่อผู้วิจัย: นางสาวบุศริน เอี้ยวสีหยก
นักศึกษาปริญญาเอกสาขาพยาบาลศาสตร์ University of Edinburgh, UK
อาจารย์ที่ปรึกษา: Prof. Kath Melia และ Dr. Susanne Kean

กรุณาให้เครื่องหมาย ✓ ในช่อง ☐ หากท่านเห็นด้วยกับข้อความข้างต้น

1. ดิฉัน / ผม ขอยืนยันว่าได้อ่านเอกสารให้ข้อมูลสำหรับการศึกษาข้างต้นและมีโอกาสที่จะถามคำถามที่สงสัยที่เกี่ยวข้องกับโครงการวิจัยแล้ว ☐
2. ดิฉัน / ผม เข้าใจว่าการมีส่วนร่วมในโครงการวิจัยครั้งนี้ของดิฉัน / ผม เกิดจากความสมัครใจ และดิฉัน / ผม มีสิทธิ์ที่จะถอนตัวจากการวิจัยนี้เวลาใดก็ตามโดยไม่ต้องให้เหตุผลแก่ผู้ทำวิจัย ☐
3. ดิฉัน / ผม เข้าใจว่าการสัมภาษณ์จะถูกบันทึกและการบันทึกนี้จะถูกใช้เพื่อการวิจัยเท่านั้น ☐
4. ดิฉัน / ผม เข้าใจว่าข้อมูลจากการค้นพบของการศึกษานี้จะถูกเผยแพร่หลังจากเสร็จสิ้นการศึกษา โดยดิฉัน / ผม จะไม่ถูกระบุชื่อไว้ในสิ่งพิมพ์หรือรายงานใดๆ ☐
5. ดิฉัน / ผม ยินดีมีส่วนร่วมในการศึกษาข้างต้น ☐

ผู้เข้าร่วมงานวิจัย	ลายเซ็น	วันที่
นางสาวบุศริน เอี้ยวสีหยก		
ผู้วิจัย	ลายเซ็น	วันที่

Appendix L: Patient classification system in Thailand

Table 15: Patient classification system in Thailand

Conditions	4 (most severe)	3 (severe)	2 (moderate)	1 (mild)
Main indications				
1. Change of vital signs	<p>A frequent and rapid change of T, P, R, BP and at least one or more signs that indicate a continuation of a serious condition.</p> <p>1. $T \geq 39.6^{\circ}\text{C}$ or $\leq 35.5-36^{\circ}\text{C}$ at least 8 hours with/without drowsiness or neurological pathology</p> <p>2. $P \geq 101/\text{min}$ or $\leq 40-49/\text{min}$. with/without arrhythmia</p> <p>3. $R \geq 33/\text{min}$ or $0-14/\text{min}$ with/without shallow of breath, air hunger or apnea</p> <p>4. $BP \geq 150/130\text{ mmHg}$ or $\leq 60/40\text{ mmHg}$</p>	<p>A rapid change and often of T, P, R, BP and at least one or more signs that indicate a serious condition, but this can be controlled.</p> <p>1. $T = 38-39.5^{\circ}\text{C}$ or $35.5-36^{\circ}\text{C}$</p> <p>2. $P = 91-100/\text{min}$ or $40-49/\text{min}$</p> <p>3. $R = 29-32/\text{min}$ or $15-17/\text{min}$</p> <p>4. $BP > 140/120/\text{min}$. or $< 90/40\text{ mmHg}$</p>	<p>A change of T, P, R, BP and at least one or more signs that indicate a moderate abnormal condition, but this can be controlled.</p> <p>1. $T = 37.5-37.9^{\circ}\text{C}$</p> <p>2. $P = 81-90/\text{min}$ or $50-59/\text{min}$</p> <p>3. $R = 27-28/\text{min}$ or $18-19/\text{min}$</p> <p>4. $BP > 140/100\text{ mmHg}$ or $< 100/40\text{ mmHg}$</p>	<p>A normal or slightly abnormal of T, P, R, BP that is often found in patients with chronic illness</p> <p>1. $T = 36.1-37.4^{\circ}\text{C}$</p> <p>2. $P = 60-80/\text{min}$.</p> <p>3. $R = 20-26/\text{min}$</p> <p>4. $BP 100/40 - 140/90\text{ mmHg}$</p>

Conditions	4 (most severe)	3 (severe)	2 (moderate)	1 (mild)
2. Signs and symptoms	<p>An uncontrol and threat to the vital organs failure which require a close and continued observation</p> <p>1. Level of severity: most severe, abnormal, unstable and can get worse over time</p> <p>2. Characteristics of symptoms: most urgent which require immediate attention. Otherwise there may be risk of death or permanent disability</p> <p>3. Examination results: an indication of a severe pathology (e.g. blood loss more than 40%, I/O imbalance, no urine output)</p>	<p>A severe condition but can be controlled or can cause more serious condition which require a close observation</p> <p>1. Level of severity: severe, abnormal, but can be controlled</p> <p>2. Characteristics of symptoms: urgent which require close observation of recurrent symptoms</p> <p>3. Examination results: an indication of an abnormal pathology, but is not severe (e.g. blood loss 30-40%, I/O show urine < 0.5 ml/kg/hr)</p>	<p>Not a severe condition and can be controlled with medical treatment and nursing care</p> <p>1. Level of severity: less severe or have symptoms in a particular area</p> <p>2. Characteristics of symptoms: less urgent or being diagnosed to have a chronic illness for which the body can compensate</p> <p>3. Examination results: an indication of a mild abnormal pathology, which can be controlled with a simple treatment (e.g. blood loss 20-30%, I/O show imbalance, but urine ≥ 500 ml/day)</p>	<p>Stay in the recovery phrase and have normal examination</p>
Minor indications				
1. Level of consciousness	<p>1. Unconsciousness, no response to pain stimulus</p> <p>2. Near loss of consciousness, cannot obey commands but responds to pain stimulus</p> <p>3. Disorientation to time, people and places, or cannot response to stimulus</p>	<p>1. Consciousness, eye function, but cannot answer questions and cannot obey commands</p> <p>2. Drowsiness, responds to commands or pain stimulus</p> <p>3. Sometimes aggressive or depressive, sometimes oriented to time, people and places</p>	<p>1. Consciousness, confusion sometimes or drowsiness</p> <p>2. Oriented, confused sometimes</p> <p>3. Responds to stimulus but slow or not localised, and impacts on their daily living activities</p>	<p>1. Orientation or has an abnormal response to stimulus but does not impact on their daily living activities</p> <p>2. Orientation to time, people and places</p>

Conditions	4 (most severe)	3 (severe)	2 (moderate)	1 (mild)
2. Mobility status	1. Cannot move the body due to serious pathology or severe illness 2. Can move the body but not specified, risk of falling down or having pressure sores, requiring absolute total care	1. Can move the body but with limitation due to serious pathology 2. Not much movement, needs absolute bed rest	1. Difficult to move the body due to pathology or suffers from pain 2. Can move the body or exercise but with limitation, needs to have bed rest	1. Can move the body but requires assistance 2. Can help themselves in their movement
3. Emotional and psychosocial status	2. Rejects illness condition or information about the treatment 3. Do not care for themselves, withdrawn from society and activities, and thinking of dying 4. Perceives illness as being: – life threatening or incurable – a disability due to lose of an organ (e.g. loss of image, and impact on roles and social status)	1. Rejects illness condition and not cooperate, or rejects the treatment 2. Depressed, becomes discouraged and disappointed, rejects doing any activities, needs motivation to do activities 3. Being isolated and located in an isolation room or isolated environment, which tends to result in an abnormal behaviour	1. Accepts illness but is in the coping stage 2. Feels very anxious, such as - wanting more attention, suffers from insomnia, does not pay attention to treatment or doing daily living activities - rejects treatment and nursing care, is depressed (crying, and forgetting things)	1. Accepts illness but still feels anxious 2. Perceives illness does not have an impact on daily living activities 3. Accepts illness and cooperates with the treatment

Appendix M: Semi-structured interview guide

1. How is safe inter-hospital transfer for critically ill patients from rural hospitals to the tertiary hospital achieved in Thailand?
 - 1.1 What are the current processes in your department when critically ill patients need to be transferred to the regional hospital?
 - 1.2 Who is involved in the hospital transferring process when critically ill patients need to be transported?
 - 1.3 How is care for safe inter-hospital transfers for critically ill patients from rural hospitals to a tertiary care hospital delivered?
2. What are the facilitators and impediments to quality of care during transportation of critically ill patients from rural hospitals to the tertiary hospital?
 - 2.1 What are the facilitators to quality of care during transportation of critically ill patients from rural hospitals to the tertiary hospital?
 - 2.2 What are impediments to quality of care during transportation of critically ill patients from rural hospitals to the tertiary hospital?
 - 2.3 How do facilitators, or barriers, impact on the quality of care for critically ill patients needing a transfer?
 - 2.4 What are the educational, training and information (knowledge and skills) needs of nurses and staff in order to transport critical ill patients safely from rural hospitals to the regional hospital?
3. What is the quality of care of inter-hospital transfer of critically ill patients from rural hospitals to the tertiary hospital?
 - 3.1 What are nurses' experiences of quality of care during inter-hospital transfers from rural hospitals to regional hospitals?
 - 3.2 In what ways does the quality of care for critically ill patients needing transfer require to be improved?

Table 16: The questions to receiving nurses at the regional hospital

Thai	English
1. ท่านคิดว่าอะไรคือคุณภาพการดูแลของการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาล	What is quality of care for inter-hospital transfer for critically illness patients from your point of view?
2. คุณภาพการดูแลของการส่งต่อระหว่างโรงพยาบาลเพื่อความปลอดภัยของผู้ป่วยวิกฤตควรเป็นอย่างไร	How is delivery of care for safe inter-hospital transfers for critically ill patients performed?
3. กระบวนการในแผนกอุบัติเหตุและฉุกเฉินของท่านเป็นอย่างไรเมื่อได้รับแจ้งว่าต้องรับผู้ป่วยวิกฤตจากโรงพยาบาลชุมชน	What are the processes in your emergency department when critically ill patients need to transfer to your hospital?
4. จากประสบการณ์ของท่าน พยาบาลจากโรงพยาบาลชุมชนมีกระบวนการส่งต่อผู้ป่วยวิกฤตถึงโรงพยาบาลของท่านอย่างไร	From your experience, how do you receive transferring critically ill patients from community hospitals?
5. จากมุมมองของท่านอะไรคือความท้าทายของการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาล	What are the challenges of transferring critically ill patients in your view?
6. ท่านคิดว่าการดูแลในกระบวนการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์มีปัญหาหรืออุปสรรคหรือไม่ ปัญหาหรืออุปสรรคนั้นคืออะไร	Do you encounter problems in the process of care in inter-hospital transfer of critical patients from community hospitals to the regional hospital? What are that problems?
7. ปัญหาหรืออุปสรรคเหล่านั้นส่งผลกระทบต่อคุณภาพการดูแลเมื่อผู้ป่วยวิกฤตต้องถูกส่งต่ออย่างไรบ้าง	What is the impact of those problems on the quality of care for critically ill patients needing transfer?
8. คุณภาพการดูแลในกระบวนการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ที่ต้องปรับปรุงคืออะไร และควรเป็นอย่างไร	How can quality of care for critically ill patients needing the inter-hospital transfer be improved?
9. ท่านคิดว่าบุคลากรที่ทำหน้าที่ส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลควรได้รับการฝึกอบรมใดเพิ่มเติมหรือไม่ เพื่อให้การดูแลระหว่างการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลมีความปลอดภัยและคืออะไร	Do you think that transfer staff should be receive more training in order to transport critical ill patients from community hospitals to the regional hospital safely? And what are their training needs?
10. สิ่งที่จะช่วยสนับสนุนให้การดูแลระหว่างการส่งต่อผู้ป่วยวิกฤตจากโรงพยาบาลชุมชนและโรงพยาบาลดีขึ้นคืออะไร และควรเป็นอย่างไร	What are the facilitators to delivery of care during transportation of critically ill patients from community hospitals to the regional hospital?

Table 17: The questions for referring nurses at community hospitals

Thai	English
1. ท่านคิดว่าอะไรคือคุณภาพการดูแลของการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาล	What is quality of care for inter-hospital transfer for critically illness patients from your point of view?
2. คุณภาพการดูแลของการส่งต่อระหว่างโรงพยาบาลเพื่อความปลอดภัยของผู้ป่วยวิกฤตควรเป็นอย่างไร	How is care for safe inter-hospital transfers of critically ill patients delivered?
3. กระบวนการในแผนกของท่านเป็นอย่างไรเมื่อมีผู้ป่วยต้องได้รับการส่งต่อไปรับดูแลรักษาต่อที่โรงพยาบาลศูนย์	What are the processes in your department when critically ill patients need to transfer to the regional hospital?
4. จากประสบการณ์ของท่าน เมื่อท่านต้องส่งต่อผู้ป่วยวิกฤตไปยังโรงพยาบาลศูนย์ ท่านให้การดูแลผู้ป่วยอย่างไรบ้าง	From your experience, how do you care critically ill patients when they need to transfer to the regional hospital?
5. จากมุมมองของท่านอะไรคือความท้าทายของการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาล	What are the challenges of transferring critically ill patients from your point of view?
6. ท่านคิดว่าการดูแลในกระบวนการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์มีปัญหาหรืออุปสรรคหรือไม่ ปัญหาหรืออุปสรรคนั้นคืออะไร	Do you think that problems arise in the process of care of inter-hospital transfer for critical patients from community hospitals to the regional hospital are there any problems? What are those problems?
7. ปัญหาหรืออุปสรรคเหล่านั้นส่งผลกระทบต่อคุณภาพการดูแลเมื่อผู้ป่วยวิกฤตต้องถูกส่งต่ออย่างไรบ้าง	What is the impact of those problems on the quality of care for critically ill patients who need to be transferred?
8. คุณภาพการดูแลในกระบวนการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ที่ต้องปรับปรุงคืออะไร และควรเป็นอย่างไร	What improvements need to be made in quality of care for critically ill patients requiring inter-hospital transfer? And how can these improvements be achieved?
9. ท่านคิดว่าบุคลากรที่ทำหน้าที่ส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลควรได้รับการฝึกอบรมใดเพิ่มเติมหรือไม่ เพื่อให้การดูแลระหว่างการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลมีความปลอดภัย และคืออะไร	Do you think that transfer staff should be more highly trained in order to transport critically ill patients from community hospitals to the regional hospital safely? What are the training needs?

Thai	English
10. สิ่งที่จะช่วยสนับสนุนให้การดูแลระหว่างการส่งต่อผู้ป่วยวิกฤตจากโรงพยาบาลชุมชนและโรงพยาบาลดีขึ้นคืออะไร และควรเป็นอย่างไร	What are the facilitators to delivery of care during transportation of critically ill patients from community hospitals to the regional hospital?
11. ปัจจุบันกระบวนการในแผนกของท่านเป็นอย่างไรเมื่อมีผู้ป่วยต้องได้รับการส่งต่อไปรับดูแลรักษาต่อที่โรงพยาบาลศูนย์	How do rate the current processes in your department when critically ill patients need to transfer to the regional hospital?
12. จากประสบการณ์ของท่าน เมื่อท่านต้องส่งต่อผู้ป่วยวิกฤตไปยังโรงพยาบาลศูนย์ ท่านให้การดูแลผู้ป่วยอย่างไรบ้าง	From your experience, how do you care for critically ill patients when they need to transfer to the regional hospital?
13. ท่านคิดว่าอะไรคือคุณภาพการดูแลของการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลของท่าน	What is quality of care for inter-hospital transfer for critically illness patients from your practical experience?
14. จากมุมมองของท่านอะไรคือความท้าทายของการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาล	What are the challenges of transferring critically ill patients from your point of view?
15. ท่านพบปัญหาและอุปสรรคใดหรือไม่จากการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ และ ปัญหาหรืออุปสรรคนั้นคืออะไร	Have you found any problems or barriers during transfer of critical patients from your hospital to the regional hospital? What are those problems?
16. ท่านคิดว่าคุณภาพการดูแลในกระบวนการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลชุมชนและโรงพยาบาลศูนย์ที่ต้องปรับปรุงคืออะไร และควรเป็นอย่างไร	What needs to be improved in provision of quality of care for critically ill patients requiring inter-hospital transfer? And how do you think this might be implemented?
17. เพื่อความปลอดภัยของการส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาล ท่านคิดว่าบุคลากรที่ทำหน้าที่ส่งต่อผู้ป่วยวิกฤตระหว่างโรงพยาบาลควรได้รับการฝึกอบรมใดเพิ่มเติมหรือไม่ และคืออะไร	Do you think the transfer staff should be more highly trained in order to transport critically ill patients from community hospitals to the regional hospital safely? What are their training needs?

Appendix N: Observational procedure

Applied from (Maimbo and Pervan, 2005, Yin, 2014)

1. Introduction to the study and purpose of research

1.1 Title: The delivery of care for safe transfer of critically ill patients from community hospitals to a regional hospital in Thailand

1.2 The purpose of the study: To understand the quality and the method of care for safe inter-hospital transfers of critically ill patients from rural community hospitals in Thailand.

1.3 Study questions:

- 1.3.1 What is the quality of inter-hospital transfer care for critically ill patients from rural community hospitals to a regional hospital in Thailand?
- 1.3.2 How do the transfer nurses provide quality of care for critically ill patients during inter-hospital transfer from rural community hospitals to the regional hospital?
- 1.3.3 What are the contextual factors that influence quality of care during transportation of critically ill patients from rural community hospitals to the regional hospital?

1.4 Theoretical framework for the study:

Symbolic interactionism (SI) is the theoretical framework perspective that underpins this study. In order to understand the delivery of inter-hospital transfer care provided by transfer nurses using SI (Blumer, 1986), I try to observe and capture: (i) the symbols – the abstract meanings attached to an object, people, and/or behaviour – or language usage adopted and communicated through the inter-hospital transfer process; and (ii) the concrete behavioural patterns of transfer nurses that reflect the symbols and conception of self. This includes verbal and nonverbal behaviour, intended and unintended behaviour, gesture, mode and style of dress, and manner of speech. All provide clues to the symbolic meanings that become translated into interaction and that emerge from it (Denzin, 1989).

1.5 Role and protocol in guiding the investigator:

This study protocol acts as field procedures for data collection, and it was continuously updated when the plans changed in order to ensure uniformity in data collection and analysis.

2. Data collection procedures

2.1 Names of sites to be visited, including contact persons

- 2.1.1 REG hospital at ED. Contact...
- 2.1.2 COM1 hospital, all departments. Contact...
- 2.1.3 COM2 hospital, all departments (excluding OPD). Contact...
- 2.1.4 COM3 hospital, all departments. Contact...

2.2 Data collection plan (cover the type of evidence expected, including the roles of people to be interviewed, the events to be observed, and any other documents to be reviewed when on site)

2.3 Expected preparation prior to site visits (identify specific information to be reviewed and issues to be covered prior to going on site)

While collecting data through participant observations and semi-structured interviews I had to keep field notes and maintain my research diary. These provided rich data that helped to engage with personnel and encourage them to appreciate the importance of their input (Hamilton, 2013).

Table 18: Participant observation procedures throughout the transfer processes

Observation	Total length of observation	Focus of observations	Evidence and storage
ER, IPD, MW where critically ill patients were identified as requiring transfer	Depending on the length of pre-transfer phase for each critically ill patient	<ul style="list-style-type: none"> - Approach of care from physician/nurse in charge, team members and referring nurses during provision of pre-transfer care - Handover process and relevant factors during pre-transfer care - Factors influencing the quality of pre-transfer care - Observation of at least 4-5 cases in each community hospital until data saturation 	<ul style="list-style-type: none"> - Taking field notes (a notebook); transferred to computer and saved as *** (name) - Photocopies of transfer letters stored in my researcher's locker and transferred to computer and saved as *** (name)
In ambulance	20–80 minutes depending on the distance to REG from each community hospital	<ul style="list-style-type: none"> - How to provide care for safe transfer or transfer management of referring nurses - Factors influencing the quality of transfer care out of the hospital 	<ul style="list-style-type: none"> - Taking field notes (a notebook) transferred to computer and saved as *** (name)
Arrival at REG hospital (ED, MW or CCU)	Depending on length of individual handover meeting	<ul style="list-style-type: none"> - Handover meeting between referring and receiving staff 	<ul style="list-style-type: none"> - Taking field notes (a notebook) transferred to computer and saved as *** (name) - Photocopies of transfer letters stored in my researcher's locker and transferred to computer and saved as ***(name)

Observation	Total length of observation	Focus of observations	Evidence and storage
During return to their own hospital	Depending length of each community hospital journey	<ul style="list-style-type: none"> - Any activities related to processes of transfer care (e.g. post transfer record, ambulance check, replacement of medicine and/or medical equipment in the ambulance) - To clarify information about their transfer experience by using informal interviews) 	<ul style="list-style-type: none"> - Taking field notes (a notebook) transferred to computer and saved as *** (name)

Note:

1. Other data, such as the digital recording of semi-structured interviews, is complex to organize. This is quite distinctive in that there is not only written text to interpret, but also tones or inflections of voices, and the addition of body language and facial expressions. I have to ensure that interviews are transcribed as this can make analysis more thorough, so I want to do this, personally.
2. I have to ensure that patient information in the official transfer letter is kept confidential after photocopying.

3. Example of field note

- 3.1 Describe the practice in detail, including the deployment of personnel, if any.
- 3.2 What is the nature, if any, of collaborative efforts across community hospitals needed to put practices into effect?
- 3.3 How were ideas for practices initiated?
- 3.4 Was there a planning process, and how did it work? What were the quality outcomes for transfer practice?
- 3.5 Describe whether practices have been influenced from any source.
- 3.6 In what ways are transfer practices innovative, compared to other practices in the same hospital or other community hospitals?

Appendix O: The official transfer letter employed by public hospitals in Thailand

The transfer letter is a 18.5 cm x 25 cm document containing a top copy and two additional carbonated layers. The top copy is pink in colour; the middle copy is yellow and the bottom copy is white. The pink and yellow copies stay with the patient. For every patient who needs to be transferred as an emergency or due to critical illness by the ambulance service, the pink and the yellow copies are retained by the accompanying personnel. The white copy is retained by the hospital service. If the patient needs to transfer back to the original hospital, the pink copy will be retained with the patient. Patient information in the transfer letter form are shown as follows:

- Name of department and Hospital number
- Series number and date
- From...
- To...
- Patient's name, age, and address
- Indication of referral: ☐ for further treatment ☐ for investigation
☐ for observation ☐ for receiving diagnostic results
- Patient's illness history and family illness history
- Present illness
- Investigation results and important laboratory results
- Primary diagnosis
- Treatment
- Reasons for transfer
- Type of health insurance
- Is it contagious disease?: notification ☐ yes ☐ no
- Signature of an authorised signatory and date

Appendix P: Characteristics of the four hospital sites

1. REG hospital

The ED of REG hospital occupies a space of around 13x15 meters located on the first floor of a building. There are separated according to degree of severity of clients, namely red, yellow, green and violet zone. There are equipment and medicine in order to care for clients in each zone. The clients are an accident and other acute emergency patients plus patients' relatives. The existing doors for patients and medical staff are at the front, the side and rear of the department. Before exiting the ED, there is triage space for the triage nurses. In the department, there is a referral centre near a staff's working table. There was one bedroom for doctors on duty, one meeting room for nursing staff. There also was a small separated section for document storage and management. At the rear of the department, there was 8-bedded observation room.

The ED of the REG hospital was staffed with 32 full-time permanent staff. Two were emergency medicine doctors, 23 were registered nurses, one was technician nurse, and six were nursing assistance. There was one head of the department and one sub-head of the department. All staff worked full-time. All nursing staff, excluding head and sub-head of the department, needed to work overtime. Nurses rotated within a month. Some senior registered nurses were rotated to work at the referral centre.

For public hospitals in Thailand, we allocate working days following a calendar month. Three shifts are organised within 24 hours, namely a day shift from 8 am to 4 pm, an evening shift from 4 pm to 12 am (midnight), and a night shift from 12 am to 8 am. As same as other public hospitals, three shifts are ordered in the ED of the REG hospital. On a day shift, there were two emergency medicine doctors, eight staff nurses including head and sub-head nurses, two nursing assistants, eight porters on duty. On an evening shift, there was one doctor and two externs, six to seven registered nurses, two nursing assistants and six porters on duty, while on a night shift there were four staff nurses, two nursing assistants and four porters on duty (Table 19). During the weekend, the emergency medicine doctors, head and sub-head nurses were not on duty, but a senior nurse took charge of the department and also looked after the patients.

Table 19: A number of nursing staff per shift at the regional hospital and three community hospitals on the weekday

No. of nursing staff Shift	REG hospital	COM1 hospital (60 beds)	COM2 hospital (30 beds)	COM3 hospital (30 beds)
Morning shift	8	4	4	2+ 1 (EMT-I)
Evening shift	6-7	3	3	2
Night shift	4	2	2	1

2. COM1 hospital

The COM1 hospital is a community hospital with 60 beds, around 72 kilometres from the city centre of PRO province. The duration of a journey was around 60-70 minutes from COM1 hospital to REG hospital. The size of the ED is about 6x14 meters with nine full-time registered nurses. As same as the ED of REG hospital, they have the same colour coding for the areas according to severity of illness. All registered nurses gained further qualifications as nurse practitioners. The staff at all three community hospitals worked three shifts within 24 hours as same as the ED of REG hospital. The nurses' rota changed every month. On a day shift, there were four registered nurses including head and sub-head nurses, one nursing assistants and three porters on duty. On an evening shift, there were three registered nurses and two porters on duty, while on a night shift there were two registered nurses and one porter on duty during weekdays. During the weekend, the number of nurses in the day shift will be reduced from three to two, except during the festival periods (e.g. Songkran festival from 13-15 April and a New Year period from 31 December to 1 January) when they were increased from four to five people. As in the ED of REG hospital, the head and deputy's head nurses were not on duty at the weekend.

The policy of inter-hospital transfer of COM1 hospital in terms of transfer staff allocation is that all nurses have the responsibility of being transfer nurses. The head of nurses arranged the rota by giving each department responsibility to transfer patients for one week following a calendar month. There are five departments, namely ED, IPD1, IPD2, MW, and OPD. The following departments: ED, IPD1, IPD2 and MW were rotated to

transfer the patients for one week. Regarding working days in a calendar month, if any month has 30-31 days, the remainder days was covered by OPD nurses because this department had a lower number of staff (see an example in Table 20).

Table 20: Transfer nurses' rota per a calendar month in November 2011 at COM1 hospital

Date	Week1 Day 1-7	Week2 Day 8-14	Week3 Day 15-21	Week4 Day 22-28	Week5 Day 29-30
Responsibility	ED nurses	IPD1 nurses	IPD2 nurses	MW nurses	OPD nurses

The average working time for transferring patients was three to shifts a month per nurse (not included the normal shift and overtime shift for each person). An example of transfer rota included normal working shifts, overtime shifts, and transfer shifts per a calendar month of COM1 hospital was illustrated in Table 21.

Table 21: Participant's rota per a calendar month on November 2011 at COM1 hospital

November						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 D	2 N	3 O	4 O	5 D
6 D/ <u>N</u>	7 D	8 N	9 N	10 E	11 O	12 D/ <u>E</u>
13 D/ <u>E</u>	14 D	15 N	16 N	17 N/ <u>E</u>	18 O	19 O
20 O	21 D/ <u>E</u>	22 E / <u>D(TS)</u>	23 D/ <u>E(TS)</u>	24 N/ <u>E</u>	25 D/ <u>E</u>	26 D
27 N/ <u>E</u>	28 D/ <u>N(TS)</u>	29 O	30 O			

Notes: D (Day shift); E (Evening shift); N (Night shift); O (Day off); an underline letter means an overtime shift; TS with bold and underline text refers to a transferring shift

3. COM2 hospital

The COM2 hospital is a community hospital with 30 beds and located 27 kilometres from the city centre of PRO province. The journey time was around 20-30 minutes to transfer patients from COM2 hospital to REG hospital. The size of the ED is approximately 10x18 meters with 11 full-time registered nurses. On a day shift, there were four registered nurses including head and sub-head nurses, two nursing assistants and two porters on duty. On an evening shift, there were three registered nurses, one nursing assistants and one porter on duty, while on a night shift there were two registered nurses and one porter on duty.

The policy of inter-hospital transfer of COM2 hospital in terms of accompanying staff allocation is that nursing staff from ED, IPD and MW, excluding the head of nursing, the heads of all departments and OPD nurses, all have a responsibility to transfer patients. The transfer rota was allocated only for evening and night shift by using nurses who were on their day off. There was no transfer rota in the day shift. If the patients needed to be transferred during the day shift, the nurses from each department where the patients had been admitted were responsible for allocating their own staff to transfer those patients. If they could not find their own nursing staff to transfer patients because of all of them were not available, they then could ask for an allocation of other staff in the rest of the departments. For example, if a patient from IPD needs to transfer to the regional hospital during the day shift, the transfer nurses were IPD nurses working on the day shift. If there was no available nursing staff in the IPD, a nurse in-charge could phone to other departments to allocate others to transfer the patient instead of them, or she or he could phone to somebody who is available even if she or he had just finished the night shift. I noticed that worked in the transfer shift after finished her night shift might have an impact not only patient safety and the quality of care (Olds and Clarke, 2010, Trinkoff et al., 2011, Stimpfel and Aiken, 2013), but also nursing staff themselves (Ball et al., 2015) as was discussed in in Chapter Six. The average of number of transferring shifts was three to four shift a month per person (this also does not include the normal and overtime shift in each person). An example of nurses' rota that included normal working hours, overtime working hours and transfer shift was shown as Table 22.

Table 22: Participant's Rota per a calendar month on December 2011 at COM2 hospital

December						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
				O/ <u>E(TS)</u>	D/ <u>E</u>	D/ <u>E(TS)</u>
4	5	6	7	8	9	10
E/ <u>D</u>	E	N	N	O	O/ <u>D</u>	D/ <u>N(TS)</u>
11	12	13	14	15	16	17
D/ <u>N(TS)</u>	E	E/ <u>D</u>	N/ <u>E(TS)</u>	N	O/ <u>D</u>	O
18	19	20	21	22	23	24
D	D/ <u>N(TS)</u>	E/ <u>D</u>	E/ <u>N(TS)</u>	N/ <u>E(TS)</u>	N/ <u>E(TS)</u>	O/ <u>D(TS)</u>
25	26	27	28	29	30	31
O	D	D	E/ <u>D</u>	E	N	N

Notes: D (Day shift); E (Evening shift); N (Night shift); O (Day off); an underline letter means an overtime shift; TS with bold and underline text refers to a transferring shift

Even though there was a rota for transfer patients in the evening and night shift. In reality, this policy was very flexible to the nursing staff. If any nursing staff were not available in their rota, this policy allowed them to exchange or gave their rota shifts to other nurses who were available or happy to do that instead. However, the permission was authorised by the head of nurses. During the time I collected data, the total of number of nurses who took an active role on the rota, were seven people a month. There were four nurses from ED, two nurses from MW and another one from IPD. Three of them have five to ten year in nursing experience, and others have two year-experience. I will call this kind of workload management is 'volunteering to transfer patients.' In fact, the average of number of transferring shifts was eight to ten shifts a month per person, and these shifts did not include the responsibility in their own rota in their departments. Nonetheless, increased work demands in transfer care is faced by the volunteer persons and result in fatigue (feeling tired) experienced. The interesting focus is that nurse fatigue related to normal working workload and transfer workload. However, it seems like these workloads are interdependent and lead to fatigue in nursing

staff, particularly if this work comes after a night shift and the new shift is an evening shift. This issue was described under the topic ‘fatigue and sickness’ in Chapter Six.

4. COM3 hospital

The COM3 hospital is a community hospital with 30 beds and about 78 kilometres from the city centre of PRO province. The duration of the journey between COM3 hospital and REG hospital was around 70-80 minutes. The size of the ED is around 4 x 12 meters with two beds for treatment. In 1997 this hospital was expanded from 10 beds to 30 beds-community hospital, but this department still had a former size of 10 beds-community hospital because of the limited of budget from the ministry of public health (MOPH). Thus, the size of the department is not appropriate for the amount of patients coming to receive the services. There are four registered nurses and one emergency medical technician-Intermediate (EMT-I). On a day shift, there were two registered nurses including head nurses, one EMT-I and two porters on duty. On an evening shift, there were two registered nurses and one porter on duty, while on a night shift there were one registered nurses and one porter on duty.

The policy of transfer nurse’s allocation of the COM3 hospital is all nursing staff from ED, OPD, IPD and MW have a responsibility to be a transfer nurse, excluding the head of nursing staff and the heads of all departments. There were two transfer nurses: R1 and R2, from 4pm to 8am on a weekday. R1 and R2 turned round to transfer a patient in their shift. If two transfer nurses were needed to transfer critical patients, R1 and R2 would go to transfer the patients together. If patients needed to be transferred during the day shift on a weekday, a nurse in-charge of each department where patients had been admitted had to allocate their own nursing staff to be a transfer nurse or R1. If they need two transfer nurses, they can allocate a nosocomial infection (NI) nurses or a counselling nurse to be R2. If these two nurses were not available, they can asked for permission from the head of ED to allocate an emergency medical technician-intermediate (EMT-I) to be R2 instead. On weekends and public holidays, there were two transfer nurses on duty from 8am to 8am in the next day. This policy allocated nurses who were on the day off to be a transfer nurse as same as other community hospitals. An example of nurses’ rota at COM3 hospital was shown in Table 23.

Table 23: Participant's rota per a calendar month in January 2012 at COM3 hospital

January						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
N/ <u>E</u>	O(<u>TS1</u>)	D	N/ <u>E</u>	O	D(<u>TS2</u>)	N/ <u>E</u>
8	9	10	11	12	13	14
O	D/ <u>E</u>	D/ <u>E</u>	<u>D</u>	N	N	O
15	16	17	18	19	20	21
N/ <u>E</u>	D/ <u>E</u>	D	D/ <u>E</u>	D(<u>TS1</u>)	N	D/ <u>E</u>
22	23	24	25	26	27	28
O	O(<u>TS2</u>)	<u>D</u>	D/ <u>E</u>	<u>E</u>	N/ <u>E</u>	<u>E</u>
29	30	31				
<u>D</u>	N/ <u>E</u>	<u>D</u>				

Notes: D (Day shift); E (Evening shift); N (Night shift); O (Day off); an underline letter means an overtime shift; TS with bold and underline text refers to a transferring shift; and TS1 (Refer1) and TS2 (Refer2)